

Appendix A. Search Strategy

MEDLINE[®]:

Search	Most Recent Queries	Result
#1	Search "Alcohol-Related Disorders"[Mesh]	86771
#2	Search "Alcohol Drinking"[Mesh]	41573
#3	Search "Alcoholism"[Mesh]	61181
#4	Search "drinking behavior"[MeSH Terms]	46604
#5	Search problem drink*	2021
#6	Search heavy drink*	3931
#7	Search alcohol problem*	2639
#8	Search risk drink*	563
#9	Search at-risk drink*	234
#10	Search alcohol depend*	6983
#11	Search excessive drink*	610
#12	Search excessive alcohol*	1501
#13	Search "alcohol consumption"[All Fields]	21680
#14	Search alcohol addiction*	596
#15	Search #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14	132104
#17	Search "Randomized Controlled Trial"[Publication Type] OR "Randomized Controlled Trials as Topic"[Mesh] OR "Single-Blind Method"[Mesh] OR "Double-Blind Method"[Mesh] OR "Random Allocation"[Mesh]	437318
#18	Search #15 AND #17	4529
#19	Search "meta-analysis"[Publication Type] OR "meta-analysis as topic"[MeSH Terms] OR "meta-analysis"[All Fields]	45475
#20	Search #15 AND #19	583
#21	Search "Comparative Study"[Publication Type]	1498440
#22	Search #15 AND #21	13766
#23	Search ("review"[Publication Type] AND "systematic"[tiab]) OR "systematic review"[All Fields] OR ("review literature as topic"[MeSH AND "systematic"[tiab])	38090
#24	Search #15 AND #23	417
#25	Search #18 OR #20 OR #22 OR #24	17884
#27	Search "alcohol reduction"	67
#28	Search brief intervention*	1393
#29	Search early intervention*	8437
#30	Search minimal intervention*	506
#31	Search alcohol therap*	33
#32	Search alcohol treatment*	1444
#33	Search harm reduc*	2065
#34	Search "screening"[All Fields] AND alcohol	9987
#35	Search "counseling"[All Fields] AND alcohol	1912
#36	Search controlled drink*	189
#37	Search "intervention"[All Fields]	248640
#38	Search secondary prevention*	9795
#39	Search "general practitioner's advice"[All Fields]	2
#40	Search "Mass Screening"[MeSH]	83521
#41	Search "Counseling"[MeSH]	27836
#42	Search "Psychotherapy"[MeSH]	130426
#43	Search "Evidence-Based Practice"[Mesh]	42726
#44	Search naltrexone	7002
#45	Search revia	7003
#46	Search vivitrol	8
#47	Search acamprosate	398

Search	Most Recent Queries	Result
#48	Search campral	398
#49	Search disulfiram	3524
#50	Search antabuse	3594
#51	Search ("health education"[MeSH Terms] OR "health education"[All Fields]) AND ("pamphlets"[MeSH Terms] OR "pamphlets"[All Fields])	1948
#52	Search "counseling"[All Fields] AND drink*	947
#53	Search "screening"[All Fields] AND drink*	3181
#54	Search #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45 OR #46 OR #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53	533938
#60	Search #15 Limits: Clinical Trial, Meta-Analysis, Randomized Controlled Trial, Clinical Trial, Phase I, Clinical Trial, Phase II, Clinical Trial, Phase III, Clinical Trial, Phase IV, Comparative Study, Controlled Clinical Trial, Multicenter Study	19163
#61	Search #25 OR #60	20264
#62	Search #61 AND #54	3749
#63	Search ((#62) AND "1985/01/01"[Publication Date] : "3000"[Publication Date]) AND "0"[Publication Date] : "3000"[Publication Date]	3483
#64	Search #63 Limits: Humans, English Sort by: Author	3178
Search	PubMed Search for Additional Articles 2.2.2011	Result
#1	Search SBIRT[tiab]	29
#2	"drinking"[tiab] OR "drinkers"[tiab]	65791
#3	"alcohol"[tiab]	144585
#4	"counseling"[tiab]	14185
#5	(#2 AND #3 AND #4) AND "1985/01/01"[Publication Date] : "3000"[Publication Date]) AND "0"[Publication Date] : "3000"[Publication Date] Sort by: Author	107
#6	"randomized controlled trial"[tiab]	17092
#7	(#2 AND #3 AND #6) AND "1985/01/01"[Publication Date] : "3000"[Publication Date]) AND "0"[Publication Date] : "3000"[Publication Date]	150
#8	#1 OR #5 OR #7	281

Note: On February 25, 2011, we added the search term “Alcohol Deterrents”[MeSH], which resulted in 28 (all non-duplicate) abstracts.

Note: On March 7, 2011, per a TEP member’s suggestion, we added the terms risky alcohol*, risky drink*, alcohol misuse, alcohol abuse, hazardous alcohol*, hazardous drink*, harmful alcohol*, and harmful drink* which resulted in 428 (77 non-duplicate) abstracts.

Note: On April 28, 2011, we amended the protocol to exclude studies of pharmacotherapy for alcohol dependence. However, because our scope included pharmacotherapy at the time of the searches, the pharmaceutical-related terms remain in the search strategy above.

- A search with analogous terms was performed in the following databases:
IPA, CINAHL®, and PsycINFO® (2/1/2011) = 468 (164 after duplicates removed)
- Embase (2/1/2011) = 1,753 (1,060 after duplicates removed)
- Cochrane (1/31/2011) = 2,570 (1,257 after duplicates removed)

Total references identified by the main searches = 8,706

Handsearches of the following references yielded 227 articles

- Ballesteros J, Duffy JC, Querejeta I, et al. Efficacy of brief interventions for hazardous drinkers in primary care: systematic review and meta-analyses. *Alcohol Clin Exp Res* 2004 Apr;28(4):608-18. PMID: 15100612.
- Beich A, Thorsen T, Rollnick S. Screening in brief intervention trials targeting excessive drinkers in general practice: systematic review and meta-analysis. *BMJ* 2003 Sep 6;327(7414):536-42. PMID: 12958114.
- Bertholet N, Daeppen JB, Wietlisbach V, et al. Reduction of alcohol consumption by brief alcohol intervention in primary care: systematic review and meta-analysis. *Arch Intern Med* 2005 May 9;165(9):986-95. PMID: 15883236.
- Cuijpers P, Riper H, Lemmers L. The effects on mortality of brief interventions for problem drinking: a meta-analysis. *Addiction* 2004 Jul;99(7):839-45. PMID: 15200579.
- Drummond C, Coulton S, James D, et al. Effectiveness and cost-effectiveness of a stepped care intervention for alcohol use disorders in primary care: pilot study. *Br J Psychiatry* 2009 Nov;195(5):448-56. PMID: 19880936.
- Fleming MF, Balousek SL, Grossberg PM, et al. Brief physician advice for heavy drinking college students: a randomized controlled trial in college health clinics. *J Stud Alcohol Drugs* 2010 Jan;71(1):23-31. PMID: 20105410.
- Kaner EF, Beyer F, Dickinson HO, et al. Effectiveness of brief alcohol interventions in primary care populations. *Cochrane Database Syst Rev* 2007(2):CD004148. PMID: 17443541.
- Lin JC, Karno MP, Tang L, et al. Do health educator telephone calls reduce at-risk drinking among older adults in primary care? *Journal of General Internal Medicine* 2010;25(4):334-9. PMID: 2010-05760-012. First Author & Affiliation: Lin, James C.
- Moore AA, Blow FC, Hoffing M, et al. Primary care-based intervention to reduce at-risk drinking in older adults: a randomized controlled trial. *Addiction* 2011 Jan;106(1):111-20. PMID: 21143686.
- Stade BC, Bailey C, Dzendoletas D, et al. Psychological and/or educational interventions for reducing alcohol consumption in pregnant women and women planning pregnancy. *Cochrane Database Syst Rev* 2009(2):CD004228. PMID: 19370597.

Total references from main searches and handsearches, minus duplicates = 5,850

Appendix B. List of Excluded Studies

Wrong language

- Andreasson S, Eklund AB. [Alcohol abuse prevention in health care services: screening methods and motivational counseling]. *Läkartidningen* 1999 Mar 31;96(13):1594-8. PMID: 10218343.
- Ballesteros J, Arino J, Gonzalez-Pinto A, et al. [Effectiveness of medical advice for reducing excessive alcohol consumption. Meta-analysis of Spanish studies in primary care]. *Gac Sanit* 2003 Mar-Apr;17(2):116-22. PMID: 12729538.
- Fernandez San Martin MI, Bermejo Caja CJ, Alonso Perez M, et al. [Effectiveness of brief medical counseling to reduce drinkers' alcohol consumption]. *Aten Primaria* 1997 Feb 28;19(3):127-32. PMID: 9264626.
- Larrosa Saez P, Vernet Vernet M, Sender Palacios MJ, et al. [Intervention for alcoholism control among chronic drinkers in primary care]. *Aten Primaria* 2000 Apr 30;25(7):489-92. PMID: 10851754.
- Lopez-Marina V, Pizarro Romero G, Alcolea Garcia R, et al. [Screening and effectiveness evaluation of a brief intervention in risk drinkers seen in primary health care]. *Aten Primaria* 2005 Sep 30;36(5):261-8. PMID: 16194494.
- Minozzi S, Grilli R. Revisione sistematica degli studi sulla efficacia degli interventi di prevenzione primaria dell'abuso di alcool fra gli adolescenti [The systematic review of studies on the efficacy of interventions for the primary prevention of alcohol abuse among adolescents] (Structured abstract). *Epidemiologia e Prevenzione* 1997(3):180-8. DARE-11998003207.
- Rumpf HJ, Bischof G, Freyer-Adam J, et al. [Assessment of problematic alcohol use]. *Dtsch Med Wochenschr* 2009 Nov;134(47):2392-3. PMID: 19911327.
- Segura Garcia L, Gual Sole A, Montserrat Mestre O, et al. [Detection and handling of alcohol problems in primary care in Catalonia]. *Aten Primaria* 2006 May 31;37(9):484-8. PMID: 16756871.
- Struzzo P. [Prevention of alcohol-related problems. From therapy to primary health care: experience at the Udine "Healthy City"]. *Recenti Prog Med* 1999 Feb;90(2):69-72. PMID: 10208095.

Wrong publication type or study design

- Acamprosate for the maintenance of abstinence in alcohol dependence. *British Journal of Clinical Governance* 1999;4(4):161-5.
- Acamprosate (Campral) for alcoholism. *Conn Med* 2005 Apr;69(4):227-8. PMID: 15926637.
- Acamprosate facilitates the maintenance of abstinence in alcohol-dependent patients after alcohol withdrawal. *Drugs and Therapy Perspectives* 2006;22(3):1-4.
- Screening brief intervention and referral to treatment (SBIRT) saves lives and improves health. *J Okla State Med Assoc* 2010 Jul;103(7):266-8. PMID: 20821926.
- Ades J, Lejoyeux M. Clinical evaluation of acamprosate to reduce alcohol intake. *Alcohol Alcohol Suppl* 1993;2:275-8. PMID: 7748311.
- Alexander CN, Robinson P, Rainforth M. Treating and preventing alcohol, nicotine, and drug abuse through transcendental meditation: A review and statistical meta-analysis. *Alcoholism Treatment Quarterly* 1994;11(1-2):13-87.
- Allen JP, Litten RZ. Alcoholics with collateral psychopathology: Issues and research findings. *Alcoholism* 1998;34(1-2):47-56.
- Angelini M, Brahmabhatt Y. A review of the pharmacologic options for the treatment of alcohol dependence. *Formulary* 2007;42(1):14-31.
- Amaro H, Arevalo S, Gonzalez G, et al. Needs and scientific opportunities for research on substance abuse treatment among Hispanic adults. *Drug and Alcohol Dependence* 2006;84(SUPPL.):S64-S75.

- Andersen M, Paliwoda J, Kaczynski R, et al. Integrating Medical and Substance Abuse Treatment for Addicts Living with HIV/AIDS: Evidence-Based Nursing Practice Model. *American Journal of Drug and Alcohol Abuse* 2003;29(4):847-59.
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- Beresford TP, Martin B. The evidence for drug treatment of alcohol dependence in liver transplant patients. *Current Opinion in Organ Transplantation* 2007;12(2):176-81.
- Berglund M. A better widget? Three lessons for improving addiction treatment from a meta-analytical study. *Addiction* 2005 Jun;100(6):742-50. PMID: 15918803.
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- Bradley KA, Bush KR, McDonell MB, et al. Screening for problem drinking: comparison of CAGE and AUDIT. Ambulatory Care Quality Improvement Project (ACQUIP). Alcohol Use Disorders Identification Test. *J Gen Intern Med* 1998 Jun;13(6):379-88. PMID: 9669567.
- Bradley KA, DeBenedetti AF, Volk RJ, et al. AUDIT-C as a brief screen for alcohol misuse in primary care. *Alcohol Clin Exp Res* 2007 Jul;31(7):1208-17. PMID: 17451397.
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Appendix C: Evidence Tables

Evidence Table 1. Characteristics of included studies

Author, year Country Trial name Funding source	Sample sizes	Study design Level of randomization	Study Setting	Study Duration (mths)	Screening and assessment instrument(s)	Who administered the screen?	Notes
Anderson & Scott, 1992 ¹ United Kingdom NA	Randomized & analyzed Overall: 154 G1: 80 G2: 74	RCT Patient	Traditional primary care	12	Screening: QF Assessment: QF	Self	
Foundation or non-profit							
Babor / WHO, 1996 ² United States, Australia, Kenya, Mexico, Norway, United Kingdom, Russia, Zimbabwe	Randomized & analyzed Overall: 1559 G1: 563 G2: 503 G3: 491	RCT Patient	Mixed primary care and primary care-like	9	NR	Mixed	
WHO Brief Intervention							
Multiple							
Bischof et al., 2008 ³ Grothues et al., 2008 ⁴ Reinhardt et al., 2008 ⁵ Germany	Randomized & analyzed Overall: 408 G1: 131 G2: 138 G3: 139	RCT Patient	Traditional primary care	12	Screening: AUDIT, LAST Assessment: M-CIDI, QF	Researcher / study team	
Stepped Intervention for Problem Drinkers							
Government							
Chang et al., 1999 ⁶ United States NA Government	Randomized Overall: 250 G1: 123 G2: 127 Analyzed Overall: 247 G1: NR G2: NR	RCT Patient	Obstetrics	varied*	T-ACE	Self	* mean # weeks of antepartum drinking was 22.4 (5.6) weeks; gestational age required to be <28 weeks @ study entry; mean gestation @ baseline was 16 (4.6) weeks

Author, year Country Trial name Funding source	Sample sizes	Study design Level of randomization	Study Setting	Study Duration (mths)	Screening and assessment instrument(s)	Who administered the screen?	Notes
Curry et al., 2003 ⁷ United States NA	Randomized & analyzed Overall: 307 G1: 151 G2: 156	RCT Patient	Traditional primary care	12	AUDIT, QF, single binge question, single drinking/driving question	Researcher / study team	
Government							
Fleming et al., 1997 ⁸ Fleming et al., 2000 ⁹ Fleming et al., 2002 ¹⁰ Grossberg et al., 2000 ¹¹ Manwell et al., 2004 ¹² United States Project TrEATGovernment	Full sample: Randomized & analyzed Overall: 774 G1: 392 G2: 382 Subgroups: Men G1: 244 G2: 238 Women G1: 148 G2: 144 Women 18-40 G1: 103 G2: 102 Young adults 18-30 G1: 114 G2: 112	RCTPatient	Traditional primary care	48	CAGE, QF	Self	screening administered by self (initial) and researcher (subsequent face-to-face interview); 1788 is subset of females 18-40; 1102 is subset of young adults 18- 30
Fleming et al., 1999 ¹³ Mundt et al., 2005 ¹⁴ United States Guiding Older Adult Lifestyles Multiple	Randomized Overall: 158 G1: 87 G2: 71 Analyzed Overall: 145 G1: 78 G2: 67	RCT Patient	Traditional primary care	24	Screening: modified HSS, CAGE Assessment: TLFB	Self	
Fleming, et al., 2008 ¹⁵	Randomized &	RCT	Traditional	6	Screening: QF, T-	Mixed	Screening by

Author, year Country Trial name Funding source	Sample sizes	Study design Level of randomization	Study Setting	Study Duration (mths)	Screening and assessment instrument(s)	Who administered the screen?	Notes
Wilton, et al., 2009 ¹⁶ United States Healthy Moms Government	analyzed Overall: 235 G1: 122 G2: 113	Patient	primary care		ACE Assessment: TLFB		clinic staff; assessment by researchers
Fleming et al., 2010 ¹⁷ United States, Canada College Health Intervention Project Multiple	Randomized & analyzed Overall: 986 G1: 493 G2: 493	RCT Patient	Student health clinic	12	Screening: CAGE, QF Assessment: TLFB	Mixed	Initial screening health survey administered by clinic staff, research staff or college health class instructor (the questionnaire presumably was self- administered); the TLFB was later conducted by research staff
Kypri et al., 2004 ¹⁸ New Zealand NA Government	Randomized Overall: 104 G1: 51 G2: 53 Analyzed Overall: 94 G1: 47 G2: 47	RCT Patient	Student health clinic	6	AUDIT, QF	Self	
Kypri et al., 2007 ¹⁹ Kypri et al., 2008 ²⁰ New Zealand NA Government	Randomized Overall: 576 G1: 138 G2: 145 G3: 146 G4: 147 Analyzed at 6 months Overall: 482	RCTPatient	Student health clinic	12	AUDIT	Self	

Author, year Country Trial name Funding source	Sample sizes	Study design Level of randomization	Study Setting	Study Duration (mths)	Screening and assessment instrument(s)	Who administered the screen?	Notes
	G1: 114 G2: 122 G3: 124 G4: 122 Analyzed at 12 months Overall: 486 G1: 113 G2: 121 G3: 126 G4: 126						
Lin et al., 2010 ²¹ Moore et al., 2010 ²² United States Healthy Living As You Age Multiple	Randomized & analyzed Overall: 631 G1: 310 G2: 321	RCT Patient	Traditional primary care	12	Screening: single question Assessment: CARET	Researcher / study team	
Lock et al., 2006 ²³ United Kingdom NA Government	Randomized & analyzed Overall: 127 G1: 67 G2: 60	RCT Practice (multiple providers)	Traditional primary care	12	Screening: AUDIT Assessment: unclear	Clinic staff	
Maisto et al., 2001 ²⁴ Maisto et al., 2001 ²⁵ Gordon et al., 2003 ²⁶ Early Lifestyle Modification Study United States Government	Randomized Overall: 301 G1: 100 G2: 101 G3: 100 Analyzed Overall: 232 G1: 74 G2: 73 G3: 85 Older adults: Overall: 45	RCT Patient	Traditional primary care	12	Screening: AUDIT, QF Assessment: ADS, AUDIT, TLFB, DrInC, SOCRATES	Researcher / study team	

Author, year Country Trial name Funding source	Sample sizes	Study design Level of randomization	Study Setting	Study Duration (mths)	Screening and assessment instrument(s)	Who administered the screen?	Notes
	G1: 15 G2: 18 G3: 12						
Noknøy et al., 2010 ²⁷ ThailandNAFoundation or non-profit	RandomizedOverall: 117G1: 59G2: 58AnalyzedOverall: 92G1: 51G2: 41	RCTPatient	Traditional primary care	6	Screening: AUDITAssessment: QF	Clinic staff	
Ockene et al., 1999 ²⁸ Ockene et al., 2009 ²⁹ Reiff-Hekking et al., 2005 ³⁰	Randomized Overall: 530 G1: 274 G2: 256	RCT Practice (multiple providers)	Academic medical center	48	QF, CAGE, TLFB	Researcher / study team	
United States Project Health Government	Analyzed at 6 months Overall: 481 G1: 248 G2: 233 Analyzed at 12 months Overall: 447 G1: 235 G2: 212 Analyzed at 4 years Overall: 333 G1: 169 G2: 164						
Richmond et al., 1995 ³¹ Australia NA Government	Randomized & analyzed Overall: 378 G1: 96 G2: 96 G3: 93 G4: 93	RCT Individual provider	Traditional primary care	12	Screening: QF Post-randomization assessment: QF; MAST; CDP	Self	
Rubio et al., 2010 ³² Spain NA Foundation or non-profit	Randomized & analyzed Overall: 752 G1: 371 G2: 381 Men:	RCT Patient	Traditional primary care	12	Screening: AUDIT Assessment: TLFB	Primary care provider	

Author, year Country Trial name Funding source	Sample sizes	Study design Level of randomization	Study Setting	Study Duration (mths)	Screening and assessment instrument(s)	Who administered the screen?	Notes
	G1: 243 G2: 248 Women: G1: 128 G2: 133						
Saitz et al., 2003 ³³ United States Screening and Intervention in Primary Care Multiple	RandomizedOverall: 312G1: 168G2: 144AnalyzedG1: varied by outcome out of possible 134 that completed 6 month interviewG2: varied by outcome out of possible 102 that completed 6 month interview	RCTIndividual provider	Academic medical center	6	CAGE, QF	Researcher / study team	
Schaus et al., 2009 ³⁴ United States NA Government	Randomized Overall: 363 G1: 181 G2: 182 Analyzed at 6 months Overall: 209 G1: 95 G2: 114 Analyzed at 9 months Overall: 213 G1: 98 G2: 115 Analyzed at 12 months Overall: 236 G1: 111 G2: 125	RCT Patient	Student health clinic	12	Screening: QF Assessment: TLFB	Researcher / study team	
Scott & Anderson, 1990 ³⁵ United Kingdom	Randomized & analyzed Overall: 72 G1: 33 G2: 39	RCT Patient	Traditional primary care	12	Screening: QF Assessment: QF	Self	

Author, year Country Trial name Funding source	Sample sizes	Study design Level of randomization	Study Setting	Study Duration (mths)	Screening and assessment instrument(s)	Who administered the screen?	Notes
NA							
Foundation or non-profit							
Senft et al., 1997 ³⁶ Freeborn et al., 2000 ³⁷	Randomized & analyzed Overall: 516 G1: 260 G2: 256	RCT Patient	Traditional primary care	24	Screening: AUDIT, QF	Self	
United States							
NA							
Government							
Wallace et al., 1998 ³⁸	Randomized Overall: 909 G1: 450 G2: 459	RCTPatient*	Traditional primary care	12	QF, CAGE	Self	*Randomization stratified by sex and by level of concern expressed about personal drinking
United Kingdom							
NA							
Multiple	Analyzed Overall: 907 G1: 448 G2: 459 Men: G1: 318 G2: 322 Women: G1: 130 G2: 137						

Evidence Table 2. Characteristics of samples from included studies

Table 2: Characteristics of samples from included studies										
Author, year Country Trial name Funding source	Did sample include those with alcohol dependence?			Baseline % non-white or by minority group	Baseline % female	Baseline etoh consumption - drinks per week: mean (SD)	Baseline etoh consumption - other measure - mean (SD) unless otherwise specified	Baseline screening score - mean (SD) unless otherwise specified	Other Baseline Population Characteristics (if clinically / significantly different between groups)	Comments
Anderson & Scott, 1992 ¹ United Kingdom NA Foundation or non-profit	Unclear / not reported	Men only	Overall: NR G1:45.1 (1.9) G2:43.0 (2.0)	NR	0%	From interview Overall: NR G1: 37.9 G2: 38.8 From HSQ Overall: NR G1: 31.2 G2: 33.0	NR	NR	NR	Drinks/week calculated by dividing g/wk by 13.7
Babor / WHO, 1996 ² United States, Australia, Kenya,Mexico, Norway, United Kingdom, Russia, Zimbabwe WHO Brief Intervention Multiple	No NA	None	Overall: NR Men 36.9 Women 35.9	NR	Overall: 19.2% G1: 18.4% G2: 22.1% G3: 17.2%	NR	NR	NR	NR	
Bischof et al., 2008 ³ Grothues et al., 2008 ⁴ Reinhardt et al., 2008 ⁵ Germany Stepped Intervention for	Yes Overall: 30.4% G1: 38.2% G2: 27.5% G3: 25.9% Other categories Abuse: 14.5% At-risk: 27.5%	Men or women only; those with comorbid depression / anxiety	Overall: NR G1: 36.8 (13.5) G2: 36.8 (13.2) G3: 35.9 (13.7)	NR	Overall: 31.9% G1: 32.1% G2: 31.9% G3: 31.7%	Overall: NR G1: 25.0 G2: 24.0 G3: 20.9 Alcohol dependents G1: 38.8 G2: 40.6 G3: 40.6	NR	Overall: AUDIT 9.1 (5.9); LAST 1.6 (1.6) G1: NR G2: NR	Comorbid depression/ anxiety Overall: 21.6% G1: 22.1% G2: 21.7% G3: 20.9% Depression only: 8.6% Anxiety only:	Drinks per week calculated by dividing g by 13.7 to get drinks/day and then multiplying by 7 for drinks/week

Author, year Country Trial name Funding source	Did sample include those with alcohol dependence? If applicable, proportion of dependent persons.	Sub-groups	Baseline age - mean (SD)	Baseline % non-white or by minority group	Baseline % female	Baseline etoh consumption - drinks per week: mean (SD)	Baseline etoh consumption - other measure - mean (SD) unless otherwise specified	Baseline screening score - mean (SD) unless otherwise specified	Other Baseline Population Characteristics (if clinically / significantly different between groups)	Comments
Problem Drinkers Government	Binge: 27.7%					Alcohol abusers / at- risk drinkers G1: 22.5 G2: 24.9 G3: 18.8 Binge drinkers G1: 7.4 G2: 7.2 G3: 6.7			7.4% Both depression and anxiety: 5.6%	
Chang et al., 1999 ⁶ United States NA Government	No NA	Pregnant women	Overall: 30.7 (5.4) G1: NR G2: NR	Overall: 22% G1: NR G2: NR	100%	NR	Mean drinks per drinking day while pregnant (including abstainers) G1: 0.6 (1.1) G2: 0.9 (1.5) Mean drinks per drinking day while pregnant (excluding abstainers) G1: 2.1 (1.5) G2: 1.5 (1.2)	NR	NR	
Curry et al., 2003 ⁷ United States NA Government	Unclear / not reported	None	Overall: 47 G1: 48.3 (1.1) G2: 45.6 (1.1)	Overall: 20% G1: 20% G2: 20%	Overall: 35% G1: 36% G2: 35%	Overall: 14.2 G1: 14.9 (0.82) G2: 13.6 (0.83)	% chronic drinking Overall: 43% G1: 45% G2: 40% % binge drinking Overall: 33% G1: 34%	AUDIT Overall: NR G1: 5.71 (0.24) G2: 5.52 (0.23)	NR	

Author, year Country Trial name Funding source	Did sample include those with alcohol dependence? If applicable, proportion of dependent persons.	Sub-groups	Baseline age - mean (SD)	Baseline % non-white or by minority group	Baseline % female	Baseline etoh consumption - drinks per week: mean (SD)	Baseline etoh consumption - other measure - mean (SD) unless otherwise specified	Baseline screening score - mean (SD) unless otherwise specified	Other Baseline Population Characteristics (if clinically / significantly different between groups)	Comments
							G2: 32%			
							% drinking and driving Overall: 55% G1: 51% G2: 60%			
Fleming et al., 1997 ⁸	Unclear:	Men; Women;	Overall: NR	Overall: NR	Overall: 38%	Overall: NR G1: 19.14 (12.26)	% with; mean (SD) # of binge episodes in previous 30 days	NR	NR	
Fleming et al., 2000 ⁹	Patients who attended	Young adults (18-30);	Men G1: 27.2% 18-30y;	G1: 5.6% G2: 7.4%	G1: 37.8% G2: 37.7%	G2: 18.94 (11.84)	G1: 85.5%; 5.65 (5.95)			
Fleming et al., 2002 ¹⁰	treatment in the past, those	Women of childbearing age (18-40)	20.2% 18-30y; 27.2% 31-40y;	Women G1: 11.9% G2: 11.5%		Men G1: 21.67 (12.85)	G2: 86.6%; 5.34 (5.03)			
Grossberg et al., 2000 ¹¹	with withdrawal symptoms, and		23.9% 41-50y; 28.8% 51-65y	Women 18- 40		G1: 21.95 (12.39)	G1: 85.1%; 6.13 (6.58)			
Manwell et al., 2004 ¹²	those who had been advised to cut down in		26.0% 18-30y; 25.1% 31-40y;	G1: 15% G2: 14%			G2: 87.2%; 5.40 (4.98)			
United States	the past were excluded.		21.3% 41-50y; 27.7% 51-65y			Women G1: 15.05 (10.02)	Women G1: 86.1%; 4.88 (4.70)			
Project TrEAT	6 subjects		Women G1: 43.5% 18-30y;			G2: 15.69 (10.13)	G2: 85.7%; 5.23 (5.13)			
Government	received formal treatment in an alcohol treatment program during the 1-year follow up period		25.9% 31-40y; 15.6% 41-50y; 15.0% 51-65y			Women 18-40 G1: 14.08 (9.22)	Women 18-40 G1: 93.2%; 5.10 (3.70)			
			G2: 35.7% 18-30y; 35.7% 31-40y; 18.2% 41-50y; 10.5% 51-65y			G2: 14.87 (8.81)	G2: 91.2%; 5.49 (4.33)			
						Young adults 18-30 G1: 16.2 (11.2)	Young adults 18- 30 G1: 96.0%; 5.9 (4.0) G2: 96.0%; 6.3			

Author, year Country Trial name Funding source	Did sample include those with alcohol dependence?	If applicable, proportion of dependent persons.	Sub-groups	Baseline age - mean (SD)	Baseline % non-white or by minority group	Baseline % female	Baseline etoh consumption - drinks per week: mean (SD)	Baseline etoh consumption - other measure - mean (SD) unless otherwise specified	Baseline screening score - mean (SD) unless otherwise specified	Other Baseline Population Characteristics (if clinically / significantly different between groups)	Comments
							G2: 18.3 (12.1)	(4.3)			
								% drinking excessively in previous week G1: 47.48% G2: 48.09% Men G1: 45.67% G2: 44.69% Women G1: 50.39% G2: 53.57% Women 18-40 G1: 45.6% G2: 53.0% Young adults 18- 30 G1: 39% G2: 46%			
Fleming et al., 1999 ¹³	No		Older adults	Overall: NR G1:	NR	Overall:	Overall: NR G1: 15.54 (7.65)	# of binge drinking episodes in previous 30 days G1: 3.38 (7.05) G2: 4.15 (8.47)	NR	Daily activity limitations Overall: NR G1: 18% G2: 30%	
Mundt et al., 2005 ¹⁴	NA			92.0% age 65- 75; 8.0% ≥ 76 G2:		G1: 35.6% G2: 31.0%	G2: 16.58 (11.49)				
United States				96.9% age 65- 75; 3.1% ≥ 76							
Guiding Older Adult Lifestyles								% binge drinking in previous 30 days G1: 48.72% G2: 40.30%			
Multiple								Drinking excessively in			

Author, year Country Trial name Funding source	Did sample include those with alcohol dependence? If applicable, proportion of dependent persons.	Sub-groups	Baseline age - mean (SD)	Baseline % non-white or by minority group	Baseline % female	Baseline etoh consumption - drinks per week: mean (SD)	Baseline etoh consumption - other measure - mean (SD) unless otherwise specified	Baseline screening score - mean (SD) unless otherwise specified	Other Baseline Population Characteristics (if clinically / significantly different between groups)	Comments
							previous 7 days: G1: 29.49% G2: 29.85%			
Fleming, et al., 2008 ¹⁵ Wilton, et al., 2009 ¹⁶ United States Healthy Moms Government	Unclear / not reported	Postpartum women	Overall: median = 28 18-21 = 15.3% 22-25 = 17.9% 26-30 = 30.6% 31-35 = 21.3% 36-40 = 12.8% 41+ = 2.1% G1: 18-21 = 15.6% 22-25 = 18.0% 26-30 = 32.8% 31-35 = 18.0% 36-40 = 12.3% 41+ = 3.3% G2: 18-21 = 15.0% 22-25 = 17.7% 26-30 = 28.3% 31-35 = 24.8% 36-40 = 13.3% 41+ = 0.9%	Overall: 18.3% G1: 16.4% G2: 20.4%	100%	NR	Total # drinks in the previous 28 days G1: 34.0 (22.8) G2: 32.2 (16.2) # of drinking days in past 28 days G1: 10.3 (6.8) G2: 10.4 (7.2) # of heavy drinking days, past 28 days G1: 3.5 (3.8) G2: 3.1 (3.3)	NR	Percent depressed at baseline (Edinburgh Postpartum Depression Scale ≥ 10) Overall: 38.7% G1: 39.3% G2: 38.1%	
Fleming et al., 2010 ¹⁷ United States, Canada College Health Intervention Project	No NA	College students	Overall: 21 G1: 21 (2.2) G2: 20.8 (2.3)	Overall: NR G1: 10.5% G2: 8.1%	Overall: NR G1: 50.5% G2: 51.3%	Overall: NR G1: 17.8 G2: 17.3	# of heavy drinking days G1: 7.2 (3.7) G2: 7.1 (3.3) # of drinking days in the past 28 days G1: 11.7 (5.0) G2: 11.8 (4.9)	NR	RAPI score Overall: NR G1: 15.2 (10.4) G2: 15.9 (10.7)	Drinks per week calculated by dividing # drinks in past 28 days by 4

Author, year Country Trial name Funding source	Did sample include those with alcohol dependence? If applicable, proportion of dependent persons.	Sub-groups	Baseline age - mean (SD)	Baseline % non-white or by minority group	Baseline % female	Baseline etoh consumption - drinks per week: mean (SD)	Baseline etoh consumption - other measure - mean (SD) unless otherwise specified	Baseline screening score - mean (SD) unless otherwise specified	Other Baseline Population Characteristics (if clinically / significantly different between groups)	Comments
Multiple										
Kypri et al., 2004 ¹⁸	Unclear / not reported	College students	Overall: NR G1: 19.9 (1.4) G2: 20.4 (1.8)	NR	Overall: 50% G1: NR G2: NR	NR	NR	AUDIT: Overall: 16.6 CI(15.5, 17.7) G1: 16.6 (5.7) G2: 16.6 (6.0)	NR	
New Zealand										
NA										
Government										
Kypri et al., 2007 ¹⁹	Unclear / not reported	College students	Overall: NR G1: 20.1 (1.9) G2: 20.1 (1.9) G3: 20.1 (2.2) G4: 20.3 (1.8)	NR	Overall: 52.0% G1: 51.4% G2: 52.4% G3: 52.1% G4: 52%	NR	NR	AUDIT: Overall: NR G1: 14.9 (5.1) G2: 14.7 (4.7) G3: 15.1 (5.5) G4: 14.9 (5.0)	NR	
Kypri et al., 2008 ²⁰										
New Zealand										
NA										
Government										
Lin et al., 2010 ²¹	Unclear / not reported	Older adults	Overall: 68.4 (6.9) G1: 68.7 (6.8) G2: 68.1 (6.9)	Overall: 13% G1: 12% G2: 13%	Overall: 29% G1: 28% G2: 30%	Overall:15.2 (7.3) G1: 15.1 (7.2) G2: 15.2 (7.4)	At least 1 heavy drinking day in past 7 days Overall: 34% G1:34% G2:34%	CARET Overall: 2.9 (1.7) G1: 2.9 (1.7) G2: 3.0 (1.7)	NR	
Moore et al., 2010 ²²										
United States										
Healthy Living As You Age										
Multiple										
Lock et al., 2006 ²³	No	None	Overall: 44.1 (15.3) G1:42.7 (15.5) G2:45.7 (14.9)	NR	Overall: 50% G1: 51% G2: 48%	Overall: NR G1: 23.0 (20.7) G2: 26.5 (29.8)	NR	AUDIT Overall: 9.9 (5.1) G1: 10.6 (4.7) G2: 10.3 (5.6)	NR	Data reported for practice clusters; they differ as follows:
United Kingdom										
NA										

Author, year Country Trial name Funding source	Did sample include those with alcohol dependence? If applicable, proportion of dependent persons.	Sub-groups	Baseline age - mean (SD)	Baseline % non-white or by minority group	Baseline % female	Baseline etoh consumption - drinks per week: mean (SD)	Baseline etoh consumption - other measure - mean (SD) unless otherwise specified	Baseline screening score - mean (SD) unless otherwise specified	Other Baseline Population Characteristics (if clinically / significantly different between groups)	Comments
Government										average # of GPs per practice G1: 4 (2.0) G2: 3 (1.5) P = 0.049 # hours worked by nurses G1: 29.1 (9.1) G2: 23.6 (7.2) P = 0.041
Maisto et al., 2001a ²⁴	Unclear / not reported	Older adults	Overall: 45.6 (15.0)	Overall: 23.3%	Overall: 30.2%	G1: 18.6	# drinks per drinking day:	NR	ADS score	drinks / week
Maisto et al., 2001b ²⁵			G1: 46.2 (15.0)	G1: 27%	G1: 32%	G2: 15.5	G1: 5.5 (4.0)		G1: 5.4 (2.3)	calculated by
Gordon et al., 2003 ²⁶			G2: 45.5 (15.2)	G2: 23%	G2: 32%	G3: 18.6	G2: 5.3 (3.0)		G2: 4.9 (2.5)	dividing #
			G3: 45.0 (15.1)	G3: 19%	G3: 27%		G3: 6.3 (4.1)		G3: 5.2 (2.4)	drinks in last 30 days by
Early Lifestyle Modification Study							# of days abstained (last 30 days): G1: 15.8 (9.5) G2: 16.7 (8.9) G3: 16.4 (9.5)		Of the subset of older adults (65+) Overall 13% female 31% non-white	4.2857
United States									# days abstained (last 30 days):	
Government							# number of drinks last 30 days: G1: 79.9 (80.6) G2: 66.3 (57.1) G3: 79.8 (91.7)		11.6	
									# drinks per week: 13.2	
									# drinks last 30 days: 56.6	

	Did sample include those with alcohol dependence?									
Author, year				Baseline %		Baseline etoh	Baseline etoh	Baseline	Other Baseline	
Country				non-white		consumption	consumption	screening	Population	
Trial name	If applicable, proportion of dependent persons.	Sub-groups	Baseline age - mean (SD)	or by minority group	Baseline % female	- drinks per week: mean (SD)	other measure - mean (SD) unless otherwise specified	instrument score - mean (SD) unless otherwise specified	Characteristics (if clinically / significantly different between groups)	Comments
Richmond et al., 1995 ³¹	Yes	Men or women only	Overall: 37.7 (13.9)	NR	Overall: 43%	In last 3 months:		MAST:		
Australia	65% = "low dependence" (Ph score 0-4)		G1: 38.6 (14.3)		G1: 43%	G1: 36.3 (18.1)	% drinking above recommended levels:	Overall: 4.5 (4.0)	Physical dependence score:	
NA	G1:62%		G2: 39.2 (14.4)		G2: 43%	G2: 38.7 (26.4)		G1: 5.5 (4.5)	Overall: 3.8 (2.5)	
Government	G3:58%		G3: 33.9 (12.0)		G3: 47%	G3: 34.7 (18.2)	G1: 83.3%	G2: 3.8 (3.8)	GGT	
	35% = "moderate dependence" (Ph score 5-14)		G4: 39.0 (14.3)		G4: 39%	G4: 37.5 (19.9)	G2:79.2%	G3: 4.2 (3.5)	Overall: NR	
	G1:38%					Past 7-days:	G3: 73.1		G1: 34.9 (43.0)	
	G2:25%					G1: 43.9 (28.3)	G4: NA		G2: 57.0 (78.6)	
	G3:42%					G2: 38.5 (23.1)			G3: 40.7 (52.0)	
						G3: 37.3 (28.0)				
Rubio et al., 2010 ³²	No	Men or women only;	NR	NR	Overall: 34.7%	Overall: G1: 27.42 (9.43)	# binge drinking episodes in last 30 days	NR	NR	
Spain	NA	only binge drinkers			G1: 34.5%	G2: 26.90 (9.76)	Overall			
NA					G2: 34.9%	Men G1: 28.90 (9.79)	G1: 2.95(2.33)			
Foundation or non-profit						G2: 28.22 (10.03)	G2: 2.95(2.27)			
						Women G1: 24.49 (7.95)	Men G1:3.59 (2.38)			
						G2: 24.52 (8.80)	Women G1: 2.39 (1.76)			
							G2: 2.52 (1.89)			
							100% binged in last 30 days and drank excessively in			

	Did sample include those with alcohol dependence?						Baseline etoh consumption - other measure - mean (SD) unless otherwise specified	Baseline screening score - mean (SD) unless otherwise specified	Other Baseline Population Characteristics (if clinically / significantly different between groups)	
Author, year	If applicable, proportion of dependent persons.	Sub-groups	Baseline age - mean (SD)	Baseline % non-white or by minority group	Baseline % female	Baseline etoh consumption - drinks per week: mean (SD)				Comments
							last 7 days			
Saitz et al., 2003 ³³	Unclear / not reported	None	Overall: NR G1: 43.7 (13.0) G2: 42.2 (12.9)	Overall: NR G1: 80% G2: 82%	Overall: NR G1: 43% G2: 29%	NR	Drinks per drinking day Overall: NR G1: 5.6 (5.3) G2: 5.5 (4.2)	NR	Significant difference in gender makeup between groups	
United States										
Screening and Intervention in Primary Care							% reporting >= 1 alcohol problem: Overall: NR G1: 68% G2: 68%		Significantly more Latino participants in control group	
Multiple							Alcohol Dependence Scale score Overall: NR G1: 7.5 (7.8) G2: 7.4 (6.5)			
Schaus et al., 2009 ³⁴	No	College students	Overall: 20.6 (2.7) G1: 20.5 (2.8) G2: 20.6 (2.7)	Overall: 22% G1: 22% G2: 23%	Overall: 52% G1: 52% G2: 52%	Overall: NR G1: 8.38 (7.43) G2: 9.59 (8.36)	# drinks per sitting: Overall: NR G1: 4.69 (2.24) G2: 4.90 (2.38)	NR	Drinking category:	
United States	NA								Nonheavy G1: 20% G2: 18%	
NA									Heavy: G1: 62% G2: 60%	
Government							# heavy drinking days in past 30 days Overall: 5.2 (4.7) G1: 5.04 (4.53) G2: 5.42 (4.93)		Heavy and frequent G1: 18% G2: 23%	
							Typical BAC / Peak BAC Overall: 0.08		Alcohol-related harms	

	Did sample include those with alcohol dependence?									
Author, year	If applicable, proportion of dependent persons.	Sub-groups	Baseline age - mean (SD)	Baseline % non-white or by minority group	Baseline % female	Baseline etoh consumption - drinks per week: mean (SD)	Baseline etoh consumption - other measure - mean (SD) unless otherwise specified	Baseline screening score - mean (SD) unless otherwise specified	Other Baseline Population Characteristics (if clinically / significantly different between groups)	Comments
						G2: 30.2 (1.6)				
Senft et al., 1997 ³⁶	No	Men or women only	Overall: NR G1: 41.9 (13.6) G2:43.0 (15.2)	Overall: NR G1: 17.4% G2:18.7%	Overall: NR G1: 28.1% G2:31.1%	NR	Drinking days/week G1: 3.3 (2.1) G2:3.5 (2.2)	AUDIT G1: 10.6 (3.4) G2: 10.5 (3.5)	# health and medical care visits in year prior to enrollment, if one or more visits: G1: 7.4 (7.4) G2: 8.8 (9.7)	
Freeborn et al., 2000 ³⁷	NA						Drinks/drinking day G1: 5.0 (3.3) G2: 4.7 (3.5)			
United States										
NA										
Government										
							>=6 drinks/occasion at least weekly (%) G1: 27.3% G2: 29.5%			
							Seriously considering cutting down on drinking G1: 59% G2: 55%			
							Currently advised by MD to avoid alcohol G1: 15% G2: 15%			
Wallace et al., 1998 ³⁸	Unclear / not reported	Men or women only	Men, mean (SE) G1:41.7 (0.8) G2:41.8 (0.8) Women, mean	NR	Overall: NR G1:29.1% G2:29.8%	From interview; mean (SE): Overall: NR Men	Drinks/wk from health survey questionnaire QF items; mean (SE)	NR	# (%) expressing concern about drinking Overall:NR Men	
United Kingdom										

Author, year Country Trial name Funding source	Did sample include those with alcohol dependence?	Sub-groups	Baseline age - mean (SD)	Baseline % non-white or by minority group	Baseline % female	Baseline etoh consumption - drinks per week: mean (SD)	Baseline etoh consumption - other measure - mean (SD) unless otherwise specified	Baseline screening score - mean (SD) unless otherwise specified	Other Baseline Population Characteristics (if clinically / significantly different between groups)	Comments
NA			(SE)			G1:62.2 (1.6)	Overall: NR		G1:173 (54.2%)	
			G1:43.0 (1.3)			G2:63.7 (1.9)	Men		G2:168 (52.2%)	
Multiple			G2:44.6 (1.3)			Women	G1: 49.6 (1.2)		Women	
						G1:35.1 (1.5)	G2: 51.2 (1.2)		G1:70 (53.4%)	
						G2:36.8 (1.7)	Women		G2:70 (51.1%)	
							G1: 28.6 (1.3)			
							G2: 29.2 (1.1)		GGT, mean (SE):	
									Overall:NR	
									Men	
									G1:27.8 (1.4)	
									G2:26.7 (1.3)	
									Women	
									G1:13.7 (1.4)	
									G2:12.0 (1.0)	

Evidence Table 3. Intervention and control components

Author, year Country Trial name Funding source		G1 interven- tionist	Did the G1 interven- tion involve "tailoring" to the patient?	# contacts in G1 interven- tion; Length of each contact;	G2 type of intervene- tion (or control)	G2 interven- tionist; G2 delivery method	Did the G2 interven- tion involve "tailoring" to the patient?	# contacts in G2 interven- tion; Length of each contact;	Length of time over which intervene- tion was delivered	G3 interven- tion details	G4 interven- tion details	Comments
Anderson & Scott, 1992 ¹ United Kingdom NA Foundation or non-profit	Brief advice, feedback about blood work & consumption. Also included norms and a self-help booklet	PCP	Yes	1;	Usual care	NA	NA	NA	NA	NA	NA	
		In-person		10 minutes;								
				Single session								
Babor / WHO, 1996 ² United States, Australia, Kenya, Mexico, Norway, United Kingdom, Russia, Zimbabwe WHO Brief Intervention Multiple	Brief intervention (varied by site)	Clinic staff	No	1;	Simple advice	Clinic staff;	No	1;	Health interview	NA		Group 2 also could have received extended counseling
		In-person		15 minutes;		In-person		5 minutes;				
				Single session				Single session				
Bischof et al., 2008 ³ Grothues et al.,	Full Care: immediate computerized	Researcher	Yes	4;	Stepped Care: immediate	Researcher	Yes	4;	General health booklet	NA		Mean (SD) total counseling minutes:
		Telephone		30 minutes		Telephone		30 minutes				

Author, year Country Trial name Funding source		G1 interven- tion	G1 interven- tionist	Did the G1 interven- tion involve "tailoring" to the patient?	# contacts in G1 interven- tion; Length of each contact;	G2 type of intervene- tion (or control)	G2 interven- tionist; G2 delivery method	Did the G2 interven- tion involve "tailoring" to the patient?	# contacts in G2 interven- tion; Length of each contact;	Length of time over which intervene- tion was delivered	G3 interven- tion details	G4 interven- tion details	Comments
2008 ⁴ Reinhardt et al., 2008 ⁵ Germany Stepped Intervention for Problem Drinkers Government	post- assessment feedback and brief counseling by psychologist				Mean (SD) total counseling minutes received: 80.3 (40.3); 6 months	computerize d post- assessment feedback and maximum of 3 counseling sessions with psychologist. Sessions were discontinued if patients indicated consumption below study criteria and high self- efficacy to maintain desired behavior.			Mean (SD) total counseling minutes received: G2: 40.0 (41.2); up to 6 months				G1: 80.3 (40.3) G2: 40.0 (41.2) P < 0.001 Proportionally and significantly similar differences between subgroups of severity.
Chang et al., 1999 ⁶ United States NA	Assessment and BI: 1) review of general health and course of pregnancy; 2) review of	Mixed (PCP and researcher) In-person	Yes		1; 2-hour assessment + 45-minute intervention;	Assessment only (DSM- III-R SCID interview, Addiction Severity Index,	Researcher; No In-person		1; 2-hour assessment; Single session		NA	NA	The intervention was delivered by the first author who is a researcher and also a PCP at

Author, year Country Trial name Funding source		G1 interven- tionist G1 delivery method		Did the G1 interven- tion involve "tailoring" to the patient?	# contacts in G1 interven- tion; Length of each contact;	Length of time over which intervene- tion was delivered	G2 type of intervene- tion (or control)	G2 interven- tionist; G2 delivery method	Did the G2 interven- tion involve "tailoring" to the patient?	# contacts in G2 interven- tion; Length of each contact;	Length of time over which intervene- tion was delivered	G3 interven- tion details	G4 interven- tion details	Comments
Government		lifestyle changes made since pregnancy; 3) articulation of drinking goals while pregnant; 4) identification of circumstances in which she might be tempted to drink; 5) identify alternatives to drinking in such situations; 6) summary of session, emphasizing drinking goal, motivation, risk situations, and alternatives; 7) take-home manual with tailored notes; communi-				Single session	AUDIT, SMAST, TLFB, Alcohol Craving Scale, Global Assessment of Functioning, Situational Confidence Questionnaire)							the lone study site. In addition, the assessment was completed by a research assistant. Therefore, we consider the intervention to have been delivered by researcher and PCP.

Author, year				# contacts in G1 interven- tion;				# contacts in G2 interven- tion;				
Country		G1 interven- tionist	Did the G1 interven- tion involve "tailoring"	Length of time over which interven- tion was delivered	G2 type of interven- tion (or control)	G2 interven- tionist;	Did the G2 interven- tion involve "tailoring"	Length of time over which interven- tion was delivered	G3 interven- tion details	G4 interven- tion details		
Trial name	G1 interven- tion	G1 delivery method	to the patient?			G2 delivery method	to the patient?					Comments
United States	visit; workbook containing feedback											
Project TrEAT	regarding current health											
Government	behaviors, review of prevalence of problem drinking, list of adverse effects of alcohol, worksheet on drinking cues, drinking agreement / prescription, drinking diary cards, follow- up phone call from clinic nurse											
Fleming et al., 1999 ¹³	General health booklet plus	PCP, nurse	Yes	4;	General health	NA	NA	NA	NA	NA		
Mundt et al., 2005 ¹⁴	drinking behavior feedback	In-person, telephone		10-15 minutes (PCP contacts), NR	booklet							
United States	(workbook), review of			for nurse calls;								

Author, year Country Trial name Funding source		G1 interven- tionist	Did the G1 interven- tion involve "tailoring" to the patient?	# contacts in G1 interven- tion; Length of each contact;	Length of time over which interven- tion was delivered	G2 type of intervene- tion (or control)	G2 interven- tionist; G2 delivery method	Did the G2 interven- tion involve "tailoring" to the patient?	Length of time over which interven- tion was delivered	G3 interven- tion details	G4 interven- tion details	Comments
Guiding Older Adult Lifestyles	Multiple	problem- drinking prevalence, reasons for drinking, adverse effects of alcohol, drinking cues, a "prescribed" drinking agreement, drinking diary cards			1 month							
Fleming, et al., 2008 ¹⁵	United States	BI and reinforcement session, each with phone follow-up; BI was a workbook containing scripted messages with feedback regarding current health behaviors, prevalence of problem	Nurse*	Yes	4; 15 minutes; 8 weeks	General health booklet + usual care	NA	NA	NA	NA	NA	90% of interventions were conducted by the clinic nurses; the other 10% were delivered by the obstetrician.

Author, year	Country	Trial name	Funding source	G1 interven- tion	G1 interven- tionist	G1 delivery method	Did the G1 interven- tion involve "tailoring" to the patient?	# contacts in G1 interven- tion; Length of each contact;	Length of time over which intervene- tion was delivered	G2 type of intervene- tion (or control)	G2 interven- tionist;	G2 delivery method	Did the G2 interven- tion involve "tailoring" to the patient?	Length of time over which intervene- tion was delivered	# contacts in G2 interven- tion; Length of each contact;	Length of time over which intervene- tion was delivered	G3 interven- tion details	G4 interven- tion details	Comments
				students, list of alcohol's adverse consequences relevant to college students, lists of personal likes and dislikes of drinking, worksheets on drinking cues, BAC level calculator, life goals and alcohol effects, prescription agreement, drinking diary cards															
Kypri et al., 2004 ¹⁸				Electronic BI - web based assessment and personalized feedback on drinking	Self- administered		Yes	1; 10-15 min (mean duration 11.2 min); Single session		Computer- based assessment + usual care (pamphlet)	Self- administered	Computer	No		1; mean duration 3.4 minutes; Single session		NA	NA	

Author, year Country Trial name Funding source	G1 interven- tion	G1 interven- tionist G1 delivery method	Did the G1 interven- tion involve "tailoring" to the patient?	# contacts in G1 interven- tion;	Length of each contact;	G2 type of intervene- tion (or control)	G2 interven- tionist; G2 delivery method	Did the G2 interven- tion involve "tailoring" to the patient?	# contacts in G2 interven- tion;	Length of each contact;	G3 interven- tion details	G4 interven- tion details	Comments
				Length of time over which intervene- tion was delivered	Length of time over which intervene- tion was delivered				Length of time over which intervene- tion was delivered				
Study United States Government	regarding a goal to reduce or stop alcohol consump-tion. Minimal elaboration.					empathy and other techniques to enhance motivation; focus on delivery of feedback of assessment data and setting alcohol use goals					and assessme nt		
Noknoy et al., 2010 ²⁷ Thailand NA Foundation or non-profit	Motivational enhancement protocol (brief counseling sessions using patient- centered interviewing style and considering stages of change)	Nurse In-person	Yes	3; 15 minutes; 6 weeks		Assessment only	Clinic staff; In-person	No	NA		NA	NA	
Ockene et al., 1999 ²⁸ Ockene et al., 2009 ²⁹	Health booklet; PCP patients' alcohol consumption	In-person	Yes	2; 5-10 minutes;		General health booklet + usual care	NA	NA	NA		NA	NA	For the usual care group, the RA gave them the booklet, the

Author, year Country Trial name Funding source	G1 interven- tion	G1 interven- tionist G1 delivery method	Did the G1 interven- tion involve "tailoring" to the patient?	# contacts in G1 interven- tion;	Length of each contact;	G2 type of intervene- tion (or control)	G2 interven- tionist; G2 delivery method	Did the G2 interven- tion involve "tailoring" to the patient?	Length of time over which intervene- tion was delivered	G3 interven- tion details	G4 interven- tion details	Comments
				Length of time over which intervene- tion was delivered								
Reiff-Hekking et al., 2005 ³⁰ United States Project Health Government	info, intervention algorithm, and patient education materials to patient's chart at regular office visit; PCP- delivered counseling involved talking about number of drinks per week, binge drinking, or both.			NR								PCP delivered the "usual care"
Richmond et al., 1995 ³¹ Australia NA Government	"Alcoholscreen" program: 5 short consultations (introduction, patient education, 3 follow-ups) designed to reduce drinking to recommended	PCP In-person	Yes	5; Intervention: 15-20 minutes Follow-ups: 5- 25 minutes; 5 months		Minimal intervention: brief advice and self-help manual	PCP; In-person	Unclear / not reported	1; 5 minutes (estimated); Single session	Assessme nt only; no interventio n Assessme nt by researcher , in- person, single- session	Screenin g only; no assessm ent, no interventi on Screenin g was self- administe red in	

Author, year Country Trial name Funding source	G1 interven- tion	G1 interven- tionist G1 delivery method	Did the G1 interven- tion involve "tailoring" to the patient?	# contacts in G1 interven- tion;	G2 type of intervene- tion (or control)	G2 interven- tionist; G2 delivery method	Did the G2 interven- tion involve "tailoring" to the patient?	# contacts in G2 interven- tion;	G3 interven- tion details	G4 interven- tion details	Comments
				Length of each contact;				Length of each contact;			
	phone reinforcement by nurse + general health booklet										
Saitz et al., 2003 ³³	Report attached to patient's chart, including: patient's alcohol screening results, a preliminary assessment, and specific recommendatio ns (see comment).	PCP In-person	Yes	1; NR; Single session	Usual care: providers received no information	NA	NA	NA	NA	NA	PCP also given the predictive value of CAGE based on the prevalence of alcohol abuse or dependence in the practice, definitions of hazardous drinking, an approach for patients who are not ready to change, a list of abuse or dependence symptoms, and referral information. To increase counseling rates, Post-it note attached

Author, year Country Trial name Funding source		G1 interven- tion	G1 interven- tionist	G1 delivery method	Did the G1 interven- tion involve "tailoring" to the patient?	# contacts in G1 interven- tion; Length of each contact;	Length of time over which intervene- tion was delivered	G2 type of intervene- tion (or control)	G2 interven- tionist;	G2 delivery method	Did the G2 interven- tion involve "tailoring" to the patient?	Length of time over which intervene- tion was delivered	G3 interven- tion details	G4 interven- tion details	Comments
															to the encounter form asking physicians to indicate whether alcohol was discussed and, if not, why. Specific recommendatio ns were given, depending on patient's level of drinking: "Drinking hazardous amounts but no affirmative CAGE responses": 1) consider advising safe drinking limits, 2) consider providing patients w/ pamphlet on

											# contacts in G2 intervention;
											Length of each contact;
Author, year			Did the G1 intervention involve "tailoring" to the patient?	Length of time over which intervention was delivered	G2 type of intervention (or control)	G2 interventionist;	Did the G2 intervention involve "tailoring" to the patient?	Length of time over which intervention was delivered	G3 intervention details	G4 intervention details	
Country		G1 interventionist				G2 delivery method					
Trial name	G1 intervention	G1 delivery method									
Funding source											
				</							

Author, year Country Trial name Funding source	G1 interven- tion	G1 interven- tionist G1 delivery method	Did the G1 interven- tion involve "tailoring" to the patient?	# contacts in G1 interven- tion;	Length of time over which intervene- tion was delivered	G2 type of intervene- tion (or control)	G2 interven- tionist; G2 delivery method	Did the G2 interven- tion involve "tailoring" to the patient?	# contacts in G2 interven- tion;	Length of each contact;	Length of time over which intervene- tion was delivered	G3 interven- tion details	G4 interven- tion details	Comments
				Length of each contact;					Length of each contact;					
United States NA Government	PCP and 15- minute session with health counselor immediately following PCP visit. Counseling session included: gathering additional info about QF and giving feedback compared to national norms; explaining effects of alcohol use and teaching ways to estimate blood alcohol level; recommending limits and/or abstinence; suggesting options for reducing													15-minute counseling was delivered by research staff

Author, year				# contacts in G1 interven- tion;				# contacts in G2 interven- tion;				
Country				Length of each contact;				Length of each contact;				
Trial name		G1 interven- tionist	Did the G1 interven- tion involve "tailoring"	Length of time over which intervene- tion was delivered	G2 type of intervene- tion (or control)	G2 interven- tionist;	Did the G2 interven- tion involve "tailoring"	Length of time over which intervene- tion was delivered	G3 interven- tion details	G4 interven- tion details		
Funding source	G1 interven- tion	G1 delivery method	to the patient?			G2 delivery method	to the patient?					Comments
	drinking; creating low- risk drinking plan; building self-confidence to succeed											
Wallace et al., 1998 ³⁸	Brief advice + information booklet ("That's the Limit") + sex-based recommendatio n for limiting drinking (U/wk) + drinking diary +FU sessions	PCP In-person	Yes	1 to 5: all received an invitation to a 1-month f/up; other f/up was offered at 4, 7, and 10 months at the discretion of the GP;	Usual care: no advice from GP unless the patient requested or the patient's lab results indicated substantial liver function impairment	NA	NA	NA	NA	NA		
United Kingdom												
NA												
Multiple				NR;								
				NR								

Evidence Table 4. Outcomes by study

Author, year Country											Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal costs, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +/- or illegal SU	Comments
Trial name Trial length Sub- group(s)	CHANGE in mean drinks per drinking (SD) per week day		% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)								
Anderson & Scott, 1992 ¹ United Kingdom NA	G1: -11.5 G2: -6.7 P < 0.06	NR	G1: 77.5% G2: 60.8% P < 0.05	G1: 18% G2: 5% P < 0.05	NR	NR	% (change from baseline) with abnormal dependenc e score	All results are for men	% (change from baseline) with abnormal accident score	NR	Mean (SE) consultatio ns/year G1: 3.3 (0.6) G2: 4.0 (0.6) P = NS	Change in mean life quality score: G1: 0 G2: 0 P = NS	Change in mean anxiety score* G1: +2.2 G2: -2.4	* Anxiety outcome is reported but it was not designated as a harm measure a priori		
12 months							G1: 23.8 (-17.5) G2: 36.5 (-5.4)		G1: 2.5 (+1.2) G2: 8.1 (+0) P = NS		Change in mean consultatio ns/year G1: +0.3 G2: +1.3	Change in mean life satisfaction score: G1: +1.8 G2: -2.2 P = NS	No significant changes in reported frequencie s of taking exercise, dieting to lose weight, or cigarette consumptio n over the duration of the trial or	Change in mean Short GHQ score: G1: -0.1 G2: +0.1		
Men only											Mean (SE) episodes/ye ar G1: 1.8 (0.3) G2: 2.2 (0.3)	% (change from baseline) with abnormal social score: G1: 15.0 (-		Change in mean affect balance score: G1: +0.4 G2: -0.1		

Author, year Country Trial name Trial length Sub- group(s)	CHANGE in mean drinks per day (SD)	CHANGE in mean drinks per day (SD)	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
											episodes/year G1: -0.3 G2: -0.4	10) G2: 18.9 (- 12.2) Change in mean GGT / MCV / BAC G1: +6.6 / +0.2 / -2.2 G2: -1.8 / - 0.3 / -2.1	between treatment and control groups.	% (change from baseline) with abnormal health score G1: 41.9 (- 3.1) G2: 36.5 (- 0.5) P = NS
Babor, 1996 ² United States, Australia, Kenya, Mexico, Norway, United Kingdom, Russia,	NR	NR	NR	Men @ 9 months G1: 43% G2: 43% G3: 35%	Men @ 9 months G1: 8% G2: 5% G3: 2%	NR	% decreasing average daily drinking Men @ 9 months G1: 40.3% G2: 40.8% G3: 29.0% Women @ 9	NA	NR	NR	NR	NR	NR	

Author, year Country	CHANGE			%		Receipt	Other	Subgroup	Morbidity	Mortality	Health care	Other:	Harms
Trial name	CHANGE	in mean		achieving		of and	outcomes	analyses	(e.g.,	(specify	utilization	quality of	(e.g.,
Trial length	in mean	drinks		moderate		follow-	(be	(other than	alcohol-	all-cause	(e.g.,	life, sick	costs /
Sub- group(s)	drinks	per	% Not	/ safe	% absti-	up with	specific)	by sex/ gender)	related	or alcohol-	number of	days, legal	costs /
	(SD) per	drinking	bingeing	drinking	nent	referrals			problems)	related	specify	employment	increased
	week	day								mortality)	outcome	stability (by	smoking
												group)	+/or illegal
													SU
													other
													outcomes
Zimbabwe					G3: 4%		months						
WHO Brief							G1: 45.1%						
Interven-							G2: 43.2%						
tion													
9 months							% without						
NA							hazardous						
							daily						
							consump-						
							tion						
							Men @ 9						
							months						
							G1: 53%						
							G2: 51%						
							G3: 42%						
							P = 0.01						
							Women @ 9						
							months						
							G1: 43%						
							G2: 46%						
							G3: 40%						
							P = NS						
Bischof et	G1: -6.64	G1: -0.95	Among	G2 only	NR	NR	% help-	BY	NR	Causes not	NR	NR	Drinks per
al., 2008 ³	G2: -6.23	G2: -0.89	abusers/	Male:			seeking at	SEVERITY		specified			week

Author, year Country	Trial name	Trial length	Sub- group(s)	CHANGE in mean drinks (SD) per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments
Grothues et al., 2008 ⁴				G3: -3.22 P = NS	G1 vs. G2 P = 0.217	<i>at-risk:</i> G1: 77.6%	25.0% Female: 26.7%			follow-up: <i>Among</i> <i>dependents:</i>	OF ALCOHOL MISUSE % not bingeing		G1: 0 G2: 1 G3: 2				calculated by dividing g by 13.7 to get drinks/day and then multitplying by 7 for drinks/week
Reinhardt et al., 2008 ⁵					G1/G2: - 0.92	G2: 78.0%	P = .898			G1: 20.0% G2: 18.4%	% not bingeing						
Germany Stepped Interventio n for Problem Drinkers					G3: -0.46 G1/G2 vs. G3 P = 0.048	G1 vs. G2 P = 1.00 G1/G2: 75.0%				G1 vs. G2 P = 1.00 G1/G2: 19.3% G1/G2 vs. G3G3: 11.1% P = 0.694	<i>Among</i> <i>dependents</i> <i>at baseline:</i> G1: 61.2% G2: 51.4% G1 vs. G2 P = 0.387 G1/G2: 45.5% G3: 50.0% G1/G2 vs. G3 P = 0.694						
12 months					Women: G1/G2 vs. G3: -35.5% (P = 0.039)	G3: 58.7% G1/G2 vs. G3 P = 0.039				<i>Among</i> <i>abusers/at-</i> <i>risk:</i> G1: 4.1% G2: 3.4% G1 vs. G2 P = 1.00 G1/G2: 3.7% G3: 1.6%							
Men, women, those with comorbid depression / anxiety					Men: G1/G2 vs. G3: -9.6% (P = 0.564)					<i>Among</i> <i>bingers at</i> <i>baseline:</i> G1: 80.6% G2: 72.5%							

Author, year Country	CHANGE		Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)		Mortality (specify all-cause mortality or alcohol- related mortality)		Health care utilization (e.g., number of ER visits) - specify outcome		Other: quality of life, sick days, costs, legal issues, employ- ment stability (by group)		Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU		Comments / other outcomes
Trial name	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)						
			% Not bingeing				G1/G2 vs. G3 P = 0.283						
							BY COMOR- BID MENTAL HEALTH CONDI- TION Change in mean drinks per day: With depression and/or anxiety G1: -2.1 G2: -1.1 G3: -1.6 G1/G2 vs.						

Author, year Country											Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments
Trial name	CHANGE in mean drinks per week		CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)							
Trial length Sub- group(s)	drinks (SD) per week	drinks (SD) per day														
<div><div></div><div>G3 P = 0.92 No mental health comorbidity G1: -0.61 G2: -0.65 G3: -0.19 G1/G2 vs. G3 P = 0.03 Comorbidity coefficient (95% CI)= +0.594 (0.175, 1.013); P < 0.01 With depression only G1: -2.6 G2: -0.95</div></div>																

Author, year Country Trial name Trial length Sub- group(s)	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +/- or illegal SU	Comments / other outcomes
Chang et al., 1999 ⁶ United States NA varied* Pregnant women	NR	<i>Excluding patients who maintained abstinence through end of study</i>	NR	NR	For the overall sample, data were not reported. For the subgroup of subjects who were abstinent prior to assess- ment, those who	NR	# of drinking episodes in antepartum period: G1: 0.7 G2: 1.0 P = 0.12 RR of antepartum alcohol consumption: Overall: 0.80; P = 0.33	NR	NR	NR	NR	Birthweight of infants: G1: 3360g G2: 3406g P = NS	NR	* mean # weeks of antepartum drinking was 22.4 (5.6) weeks; gestational age required to be <28 weeks @ study entry; mean gestation @ baseline was 16 (4.6) weeks

Author, year Country	Trial name	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
			During antepart um period: Values NR P = NS			received the interventi on main- tained higher rates of absti- nence than those in the control group (86% vs. 72%, P = 0.04).		Women abstinent before assess- ment: 0.60; P = 0.20 Women non- abstinent before assess- ment: 1.02; P = 0.95							
Curry et al., 2003 ⁷ United States NA		G1: -4.33 G2: -2.06 P = NR	NR	G1: 86% G2: 81% P = 0.35	G1: 57% G2: 43% P = 0.048	NR	NR	Chronic drinking G1: 28% (-17%) G2: 28% (-12%)	NR	NR	NR	NR	NR	NR	

[illegible]

Author, year Country	Trial name	length Sub- group(s)	CHANGE in mean drinks (SD) per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +or illegal / SU	Comments / other outcomes
TrEAT	P =		0.0018		months: /	76.8% /		Overall		40 only @	P = NS		12 months	Resist or	after 12	
48 months					G1:	77.6%		treatment		24 / 36 / 48	Motor		G1: 29 / 33	obstruct	months for	
					G2:	67.0%		effect @ 48		months	vehicle		G2: 46 / 39	office,	men or	
Men,	Men @ 6				38.5% /	/ 65.4% /		months P =		G1: -7.05 / -	crash		P > 0.10 / P	disorderly	women in	
women,	months				36.2%	73.6%		0.0002		6.94 / -6.60	with non-		> 0.10	conduct	either	
young	G1: -7.83				G2:	P < 0.01 /				G2: -3.88 / -	fatal		Women @ 6	G1: 8 / 6	group.	
adults 18-	G2: -4.83				25.6% /	P < 0.01 /		Men @ 6 /		5.50 / -4.93	injuries		/ 12 months	G2: 6 / 3	(Values	
30, women	Men @				29.3% /	P = NS		12 months		P = 0.01 / P	G1: 20 / 9		G1: 18 / 27	P = NS	NR)	
12					29.6%	Overall		G1: 3.33		= 0.08 / P =	G2: 31 /		G2: 24 / 23	Controlled		
18-40	months				P < 0.01 /	treatment		(5.35) / 3.43		0.27	20		P > 0.10 / P	substance,		
	G1: -8.05				P < 0.01 /	difference		(5.52)		Repeated	P = NS /		> 0.10	liquor		
	G2: -5.09				P < 0.10	P =		G2: 4.37		measures	P < 0.05		Women 18-	violation		
	overall				Overall	0.0005		(5.29) / 4.48		for overall	Motor		40 @ 6 / 12	G1: 2 / 0		
	treatment				treatment			(5.66)		treatment	vehicle		months	G2: 11 / 8		
	differenc				e P =	Men @ 6 /		P < 0.025 /		effect: P =	crash		G1: 14 / 23	P < 0.05 / P		
	e @ 12				0.0004	12 months		P < 0.05		0.0039	with		G2: 20 / 21	< 0.01		
	months:				Men @ 6	G1: 76.6%				Pregnant	property		P = 0.39 / P	Criminal or		
	P < 0.01				/ 12	/ 79.9%				women	damage		= 0.84	property		
	Women				months	G2: 70.2%		Women @ 6		G1: -10.1	only		Women 18-	damage		
	@ 6				/ 68.1%	/ 68.1%		/ 12 months		G1: 2.14	G1: 67 /		40 @ 24 / 36	G1: 2 / 1		
	months				G1:	P = NS / P		G1: 2.14		G2: -3.4	19		/ 48 months	G2: 1 / 3		
	G1: -7.14				34.8% /	< 0.01		(4.70)		P < 0.05	G2: 72 /		G1: 23 / 35 /	P = NS		
					40.6%	Men @ 24		G2: 3.22		adults 18-	28		11	Theft,		

Author, year Country	CHANGE					Receipt	Other	Subgroup	Morbidity	Mortality	Health care	Other:	Harms
Trial name	CHANGE in mean drinks per drinking day	in mean drinks per drinking day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	of and follow- up with referrals	outcomes (be specific)	analyses (other than by sex/ gender)	(e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	(specify all-cause mortality or alcohol- related mortality)	utilization (e.g., number of ER visits) - specify outcome	quality of life, sick days, legal costs, employ- ment stability (by group)	(e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +or illegal SU
			e P = 0.002 Women @ 6 / 12 months	P < 0.01 / P < 0.01 Women @ 24 / 36 / 48 months: G1: 75.0% G1: 46.6% / 45.3% / 79.7% / G2: 80.4% G2: 29.9% / 32.6% / 63.9% / 69.4% P < 0.01 P < 0.05 Women @ 24 / 36 / 48 months: G1: 38.5% / 43.2% / 38.5% G2: 23.6% /				30 days Women 18- 40 @ 6 / 12 months G1: 40.8 / 39.8 G2: 24.5 / 26.5 P = 0.01 / P = 0.03 Women 18- 40 @ 24 / 36 / 48 months G1: 31.1 / 35.9 / 32.0 G2: 18.6 / 24.5 / 30.4 P = 0.03 / P = 0.06 / P = 0.71 Young adults 18-	G2: 307 / 149 P = NS / P < 0.05	146 / 664 visit: \$26.19 P < 0.001 / P < 0.001 / P < 0.05 Men @ 6 / 12 months G1: 29 / 65 G2: 159 / 118 P < 0.001 / P < 0.001 Women @ 6 / 12 months G1: 6 / 26 G2: 21 / 16 P < 0.001 / P < 0.001 Women 18- 40 @ 6 / 12 months G1: 6 / 22 G2: 16 / 16 P = 0.26 / P	visit: \$26.19 Intervention followup visit: \$26.19 Telephone followup: \$2.51 Provider training (one-time total cost): \$8,839 Total clinic cost per patient: \$165.65 Total patient cost per patient (travel, lost work): \$38.97 Overall cost		

Author, year Country											Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU		
Trial name Trial length Sub- group(s)	CHANGE in mean drinks per drinking (SD) per week	CHANGE in mean drinks per drinking (SD) per day	% Not bingeing drinking	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Comments
			25.0% / 32.6% P < 0.01 / P < 0.01 / P = NS Overall treatment differenc e P = 0.0023					30 @ 6 / 12 months G1: 94% / 94% G2: 16% / 12% Young adults 18- 30 @ 24 / 36 / 48 months G1: 24% / 30% / 34% G2: 15% / 24% / 19% Overall P < 0.01 % drinking exces- sively in past 30 days			= 0.65 per patient: Women 18- 40 @ 24 / 36 / 48 months G1: 30 / 39 / 26 G2: 34 / 28 / 53 P = 0.52 / P = 0.84 / P = 0.27 Young adults 18-30 @ 48 months G1: 131 G2: 150 P = NS	Post- baseline ED visit costs (\$): G1: 49,008 G2: 60,456 Difference (95% CI): 11,448 (- 6,412; 32,060) Post- baseline hospitalizat ions costs (\$): G1: 115,920 G2: 299,920 Difference	

Author, year Country	Trial name	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/- or illegal SU	Comments
													\$523; benefit-cost ratio: 3.2:1 (95% CI: 0.6, 6.6)		
Fleming et al., 1999 ¹³	at 6 months	NR	In previous 30 days	In previous 7 days @ 6 months:	NR	NR	# binge drinking episodes in previous 30 days - mean (SD): @ 6 / 12 months:	All results are for older adults	No significant changes in accidents or injuries for either group.	# @ 24 months (causes unspecified)	NR	All costs are @ 24 months	No significant changes in tobacco use for either group.		
Mundt et al., 2005 ¹⁴	G1: -5.49 G2: -0.49 P < 0.001		@ 6 months:	G1: 84.6 G2: 68.7 P < 0.025			G1: 2.47 (6.96) / 1.83 (5.94) G2: 4.79 (9.36) / 5.36 (9.25) P < 0.05 / P < 0.005				G1: 1 G2: 4 P = NR		Cost of intervention, \$/patient G1: 236 G2: 3 Cost to clinic, \$/patient G1: 197 G2: 3 Cost to patient, \$/patient G1: 39	Patient costs = \$39/patient for tx group and \$3/patient for control group	
United States Guiding Older Adult Lifestyles	at 12 months		G1: -5.62 G2: -0.31 P < 0.001	G1: 67.95 G2: 58.21 P = NS											
24 months	months		In previous 30 days @ 12 months:	G1: 84.6 G2: 65.7 P < 0.005											
Older adults	G1: -5.0 G2: -2.0 P < 0.05		@ 12 months:	In previous 7 days @ 24 months:			Change in								

Author, year Country	CHANGE		Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)		Mortality (specify all-cause mortality or alcohol- related mortality)		Health care utilization (e.g., number of ER visits) - specify outcome		Other: quality of life, sick days, legal issues, employ- ment stability (by group)		Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU		Comments
Trial name Trial length Sub- group(s)	CHANGE in mean drinks per drinking (SD) per week	CHANGE in mean drinks per drinking (SD) per day	% Not bingeing drinking	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)					
			50.75 P < 0.025	G1: 83.1% G2: 69.4% P < 0.10			# binge drinking episodes in previous 30 days (mean) @ 6 / 12 months: G1: -0.91 / - 1.55 G2: +0.64 / +1.21 mean (SD) # heavy drinking episodes in previous 30 days @ 6 / 12 / 24 months G1: 1.82 (4.4) / 1.11				G2: 0 Cost of hospitalizat ions, \$/patient (95% CI) G1: 2,755 (1,664; 3,846) G2: 3,433 (1,666; 5,200) Cost of ED visits, \$/patient (95% CI) G1: 94 (61; 127) G2: 83 (50; 116) Cost of Rx and OTC medication		

Author, year	Country	Trial name	length	Sub-group(s)	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% abstinent	Receipt of and follow-up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol-related injuries, alcohol-related liver problems)	Mortality (specify all-cause mortality or alcohol-related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, costs, legal issues, employment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimination, interference with doctor/pt relationship, opportunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
											0.67						G2: 39 (12; 66) Total health care utilization, \$/patient (95% CI) G1: 3,260 (2,128; 4,392) G2: 3,924 (2,100; 5,748) Cost of motor vehicle accidents, \$/patient (95% CI) G1: 1,613 (0; 3,553) G2: 103 (0; 242)	

Author, year Country	Trial name	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
													\$/patient (95% CI) G1: 5,241 (2,995; 7,487) G2: 6,289 (3,549; 9,029)		
Fleming, et al., 2008 ¹⁵ Wilton, et al., 2009 ¹⁶ United States Healthy Moms	G1: -3.6 G2: -1.3 P = 0.013	NR	NR	NR	NR	NR		Change in number of drinking days in past 28 days G1: -3.4 G2: -1.2 P = 0.024	All results for post- partum women.	NR	NR	NR	Mean change in EPDS score G1: -2.0 (p<0.001) G2: -0.41 (p = 0.342) P = NR	NR	Converted from consumptio n in last 28 days by dividing by 4.
6 months Postpartu m women								Change in number of heavy drinking days, past					Change in percent depressed over time from		

Author, year Country	Trial name	length	Sub- group(s)	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +/- or illegal SU	Comments / other outcomes
										28 days (4 or more drinks) G1: -1.8 G2: -0.5 P = 0.019					baseline (>9 on EPDS) G1: -13.4% (p = 0.04) G2: -3.7% (p = 0.54) Total change is significant P < 0.05 Experiment al group (coefficient, SE): -1.46 (0.612); P = 0.018; 95% CI: -2.67, - 0.258)		
Fleming et al., 2010 ¹⁷	At 6 months	NR		Mean number of heavy drinking		NR	NR	NR	NR	Mean number of drinking days in the	All results are for college students.	NR	NR	% of people with at least one hospitalizati	NR	NR	Converted from # drinks in past 28

Author, year Country	Trial name	Trial length	Sub- group(s)	CHANGE in mean drinks per day	CHANGE in mean drinks per drinking day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, costs, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +/or illegal SU	Comments
Canada College Health Interventio n Project	At 12 months G1: -4.8 G2: -3.6 P = NR				days @ 6 / 12 months G1: 5.3 (4.2) / 5.3 (4.3) G2: 5.8 (4.1) / 5.5 (3.7) % change baseline to 12 months G1: - 27.2% G2: - 21.0%				past 28 days @ 6 / 12 months G1: 9.9 (5.8) / 9.9 (5.8) G2: 10.4 (5.5) / 10.3 (5.5) % change baseline to 12 months G1: -15.4% G2: -12.6% Mean change in drinking days baseline to 6 / 12 months G1: -1.8 / -				on or ED visit or UC visit or admission to a local detox unit in previous 6 months @ 6 months G1: 20.1 G2: 19.9 P = 0.937 @ 12 months G1: 18.5 G2: 18.3 P = 0.934 % Change baseline to 6 months G1: -9.1 G2: -9.7 P = NR			days by dividing by 4	
									</								

Author, year Country	CHANGE		Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)		Mortality (specify all-cause mortality or alcohol- related mortality)		Health care utilization (e.g., number of ER visits) - specify outcome		Other: quality of life, sick days, costs, legal issues, employ- ment stability (by group)		Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU		Comments
Trial name Trial length Sub- group(s)	CHANGE in mean drinks per week	drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)					
	time: -4.7 (2.0); P = 0.018		drinking days Baseline to 6 / 12 months G1: -1.9 / -1.9 G2: -1.3 / -1.6 Overall treatment group effect over time, P = 0.148				1.8 G2: -1.4 / - 1.5 P = NR Overall treatment group effect over time, P = 0.53 RAPI score @ 6 / 12 months G1: 9.7 (8.9) / 7.8 (7.5) G2: 11.0 (9.4) / 9.1 (8.8) Mean change baseline to 6 / 12 months			% Change baseline to 12 months G1: -10.7 G2: -11.3 P = NR			

Author, year Country	CHANGE		CHANGE		%		Receipt	Other	Subgroup	Morbidity	Mortality	Health care	Other:	Harms
Trial name	CHANGE	in mean	drinks	% Not	achieving	% absti-	of and	outcomes	analyses	(e.g.,	(specify	utilization	quality of	(e.g.,
Trial length	in mean	drinks	per	bingeing	/ safe	nent	follow-	(be	(other than	alcohol-	all-cause	(e.g.,	life, sick	costs, legal
Sub- group(s)	(SD) per	drinking	day	day	drinking		up with	(specific)	by sex/ gender)	related	mortality	number of	days, costs, legal	issues, employ-
	week	day					referrals			problems)	or alcohol- related mortality)	ER visits) - specify outcome	stability (by group)	time, increased smoking +/or illegal / other outcomes
								G1: -5.5 / -7.4 G2: -4.9 / -6.8 Overall treatment group difference across time, P = 0.033						
Kypri et al., 2004 ¹⁸ New Zealand NA 6 months College students	NR	NR	Frequen- cy of very episodic heavy drinking Ratio of geometri- c group means (95% CI): 0.85 (0.59 to	NR	NR	NR	NR	Ratios of means (exponent of mean of log- transforme d data): Lower frequency of drinking (# drinking days in	All results are for college students	NR	Deaths (cause not specified): G1: 0 G2: 1	NR	Number of Problems on the Alcohol Problems Scale (personal, social, sexual, legal consequen- ces of Heavy	NR

Author, year Country Trial name Trial length Sub- group(s)	CHANGE in mean drinks per day	CHANGE in mean drinks per drinking day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +/- illegal SU	Comments / other outcomes
Kypri et al., 2007 ¹⁹ Kypri et al., 2008 ²⁰ New Zealand NA 12 months College students	NR	NR	# of episodes of episodic heavy drinking (>80g for women and >120g for men) in the past 2 weeks (rate ratio with 95% CI): @ 6 months: G1 vs G3: 0.78 (0.55,	NR	NR	NR	# of drinking days in past 2 weeks (rate ratio with 95% CI): @ 6 months: G1 vs G3: RR: 0.79 (0.68, 0.94), P = 0.008 G2 vs G3: RR: 0.85 (0.73, 1.00), P = 0.05 @ 12 months: G1 vs G3: 0.86 (0.74, 1.01), P = 0.07	All results are for college students.	NR	NR	NR	Score on the Academic Role Expectatio ns and Alcohol Scale (rate ratio with 95% CI): @ 6 months: G1 vs G3: RR: 0.76 (0.64, 0.91), P = 0.003 G2 vs G3: RR 0.78 (0.65, 0.93), P = 0.005 @ 12 months: G1 vs G3:	NR	

Author, year Country											Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +/or illegal SU		
Trial name Trial length Sub- group(s)	CHANGE in mean drinks per drinking day (SD) per week	CHANGE in mean drinks per drinking day	% Not bingeing drinking	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Comments
			1.12), P = 0.18 G2 vs G3: 0.65 (0.45, 0.93), P = 0.02 @ 12 months: G1 vs G3: 0.75 (0.53, 1.07), P = 0.12 G2 vs G3: 0.71 (0.51, 1.01), P = 0.06				G2 vs G3: 0.92 (0.79, 1.07), P = 0.28 # of drinks per typical drinking occasion in the past 4 weeks (rate ratio with 95% CI): @ 6 months: G1 vs G3: 0.93 (0.80, 1.08), P = 0.33 G2 vs G3: 0.85 (0.73, 0.98), P = 0.02					RR: 0.80 (0.66, 0.97), P = 0.02 G2 vs G3: RR: 0.75 (0.62, 0.90), P = 0.002 Number of Problems on the Alcohol Problems Scale (personal, social, sexual, legal consequen- ces of Heavy drinking) (rate ratio	

Author, year Country	CHANGE					Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
Trial name Trial length Sub- group(s)	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent									
							G2 vs G3: RR: 0.79 (0.64, 0.97), P = 0.02 @ 12 months: G1 vs G3: RR: 0.77 (0.63, 0.95), P = 0.01 G2 vs G3: RR: 0.87 (0.71, 1.06), P = 0.16							
							AUDIT scores (median, range; linear regression coefficient with 95%							

Author, year Country	Trial name	CHANGE in mean drinks per day	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
Lock et al., 2006 ²³ United Kingdom NA 12 months NA	At 6 months: G1: -1.46 (12.09) G2: -2.60 (27.83) Treatment difference (95% CI): 1.14 (-9.61, 11.89) p = 0.83 At 12 months: G1: -1.45 (13.70) G2: -1.26 (20.62) Treatment t	NR	NR	NR	NR	NR	Drinking Problems Index: @ 6 mo: G1: -0.34 (2.85) G2: +0.96 (8.06) Treatment difference (95% CI) : -1.31 (-4.42 - 1.80) @ 12 mo: G1: -0.97 (3.97) G2: +0.33 (6.13) -1.30 (-3.84 - 1.24) AUDIT	NR	NR	NR	General practitioner visits: G1: 2.77 (1.57) G2: 2.97 (1.87) P = NS Nurse practitioner visits: G1: 1.89 (1.6) G2: 2.00 (1.69) P = NS Accident & emergency visits: G1: 0.36 (0.50) G2: 0.43	SF-12 Physical Health 6 mo: G1: +0.43 (5.01) G2: +1.00 (6.38) Treatment difference (95% CI): -0.57 (-3.37 to 2.23) 12 mo: G1: -0.59 (5.38) G2: -1.01 (7.33) Treatment difference (95% CI): +0.41 (-2.75	Patient costs (British pounds), mean (SD) G1: 0.48 (0.88) G2: 2.12 (5.18) P = NS		

Author, year Country	Trial name	length	Sub- group(s)	CHANGE in mean drinks per day	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
				difference (95% CI): - 0.19 (- 9.02, 8.64) p = 0.97						score @ 6 mo G1: -1.11 (6.00) G2: -0.28 (9.48) Treatment difference (95% CI): - 0.82 (-4.84, 3.19)			(0.665) P = NS Hospital inpatient stays: G1: 0.37 (0.52) G2: 0.31 (0.63) P = NS Hospital outpatient visits: G1: 1.46 (1.45) G2: 1.44 (1.38) P = NS		to 3.57) SF-12 Mental Health 6 mo: G1: +0.84 (6.86) G2: +0.96 (9.18) Treatment difference (95% CI): -0.12 (-4.08 to 3.84) 12 mo: G1: +2.18 (9.68) G2: +1.59 (10.05) Treatment difference (95% CI):		

Author, year Country	Trial name	length	Sub- group(s)	CHANGE in mean drinks (SD) per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU)	Comments / other outcomes
Older adults										@ 6 months: G1: -0.20 G2: -2.4 G3: -1.2 @ 12 months: G1: -0.34 (- 2.40, 1.73) G2: -2.53 (- 4.66, -0.4) G3: -0.75 (- 2.24, 0.74)	Days abstained @ 6 / 9 / 12 <i>months:</i> G1: +7.5 / - 8.3 / +4.9 G2: +5.7 / - 4.0 / +4.5 G3: +0.8 / - 0.1 / 2.0 P = NS / P = NS / P = NS						G2 and G3; partial explanation for large discrepancy in results
										# of drinks per drinking day @ 6 / 9 / 12 <i>months:</i> G1: -1.3 / - 1.8 / -2.4							RESULTS BY SCREENIN G INSTRUME NT, regardless of treatment group change in # drinks in last week: AUDIT- positive only: -3.7

Author, year Country Trial name Trial length Sub- group(s)	CHANGE in mean drinks per day (SD)	CHANGE in mean drinks per day (SD)	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +/or illegal SU	Comments
Noknong et al., 2010 ²⁷ Thailand NA 6 months NA	G1: -8.55 G2: 2.931 +0.69 P = 0.035 P = 0.270	G1: - G2: 2.931 +0.29 P = 0.270	NR	NR	NR	NR	# binge drinking episodes in previous week - mean (SD): @ 6 months G1: 0.45 (1.38) G2: 0.95 (1.69) P = 0.121	NR	Alcohol- related accidents : G1: 1 G2: 4 Alcohol- related traffic accidents : G1: 3 G2: 5	G1: 1 (stroke) G2: 0	Visit to PCP due to alcohol consumption: G1: 0 G2: 3	NR	NR	QF- and AUDIT- positive: - 2.89
Ockene et al., 1999 ²⁸ Ockene et al., 2009 ²⁹ Reiff-	6 months G1: -6.0 (11.2) G2: -3.1 (10.2)	NR	Of patients who were binge drinkers	Of excessive drinkers (with or without	NR	NR	Mean (95% CI) binge drinking episodes per month	NR	NR	NR	NR	NR	NR	

Author, year Country	Trial name	length	Sub- group(s)	CHANGE in mean drinks (SD) per week	CHANGE in mean drinks per drinking day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
Hekking et al., 2005 ³⁰	United States Project Health	48 months	Men, women	P = 0.003 12 months G1: -5.7 G2: -3.0 P = 0.08 Men @ 6 months G1: -5.6 (12.5) G2: -2.9 (11.9) P = 0.05 Women @ 6 months G1: -6.8 (8.0) G2: -3.5 (7.0) P = 0.003 Change	(with or without excessiv e weekly consumpt ion) at baseline: G1: 54% G2: 39% At 6 months CI): 1.83 G1: 40% (1.20, 2.78) P = 0.01 At 12 months P = 0.32 G2: 49% OR (95% CI): 1.60 G1: 55% (1.00, 2.54) P = 0.05 CI): 1.37 (0.86,	bingeing) at baseline: months G1: 54% G2: 39% At 6 months CI): 1.83 G1: 40% (1.20, 2.78) P = 0.01 At 12 months P = 0.32 G2: 49% OR (95% CI): 1.60 G1: 55% (1.00, 2.54) P = 0.05 CI): 1.37 (0.86,			(adjusted for age, gender, baseline consumpti on) @ 6 months G1 (N=248): -1.8 (-2.41, - 1.19) G2 (N=233): -1.0 (-1.63, - 0.37) Treatment difference: - 0.8 (-1.68, 0.08) P = 0.09 @ 12 months G1 (N=235): -2.0 (-2.58, - 1.37)								

Author, year Country	Trial name	CHANGE in mean drinks per day	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
		(95% CI) adjusted for age, sex and baseline consum- ption: At 6 months: G1: -5.8 (-7.03, - 4.57) G2: -3.4 (-4.69, - 2.11) Treatmen t differenc e: -2.4 (- 4.20, - 0.60); P = 0.001 At 12		2.12) P = 0.18				G2 (N=210): -1.6 (-2.19, - 0.89) Treatment difference: - 0.4 (-1.33, - 0.45) % achieving safe consumpti on and not bingeing: @ 6 months G1: 39% G2: 28% OR (95% CI): 1.60 (1.09, 2.34) P = 0.02 @ 12 months							

Author, year Country	Trial name	length	Sub- group(s)	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
				<i>months</i>						G1: 42% G2: 29% OR (95% CI): 1.58 (0.99, 2.52) P = 0.06							
				G1: -5.7 (-7.19, - 4.29) G2: -3.2 (-4.72, - 1.73)													
				Treatmen t differenc e: -2.6 (- 4.53, - 0.27) P = 0.03						Treatment x time results from model of log drinks per week + 1, using LOCF: @ 6 month:s (95% CI): 0.84 (0.71, 0.98) @ 12 months:							

Author, year Country	Trial name	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
		G1: -10.1 G2: -2.2 G3: - 9.7 P = NS Women @ 6 months:						(-2.1%) G3: 78.5% (+5.4%) G4: NR P = NS							
		G1: -0.7 G2: -1.9 G3: -0.9 P = NS Women @ 12 months:						Change in MAST score: @ 6 months: G1: -1.3 G2+G3: +0.1 P < 0.05							
		G1: -0.5 G2: -1.9 G3: +0.1 P = NS						Attendance at follow- up interventio n visits among those							

Author, year Country													Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +/or illegal SU	
Trial name	CHANGE in mean drinks per week		CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Comments
length Sub- group(s)	drinks (SD) per week	drinks per day												outcomes
			57.82 G2: 31.58 p<0.001					Women G1: 0.72 G2: 1.26 p<0.001						
Saitz et al., 2003 ³³ United States Screening and Interventio n in Primary Care 6 months NA	NR	NR	<i>Results are stratified by type of provider seen</i> Faculty MDs G1: 49% G2: 58% Resident MDs G1: 56% G2: 36%	<i>Results are stratified by type of provider seen</i> Faculty MDs G1: 50% G2: 50% Resident MDs G1: 47% G2: 31%	<i>Results are stratified by type of provider seen</i> Faculty MDs G1: 22% G2: 26% Resident MDs G1: 18% G2: 5%		<i>Results are stratified by type of provider seen</i> Mean (95% CI) drinking days in past 30 days Faculty MDs G1: 8.8 (7.5, 10.1) G2: 10.0 (7.8, 12.2) Resident MDs G1: 9.9 (7.7, 12.1)	NR	NR	NR	NR	NR	NR	Baseline data given for intervention and control groups, but results presented by provider type in each group, not overall by group. Cannot calculate changes for all outcomes. Other

Author, year Country											Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
Trial name Trial length Sub- group(s)	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)								
							G2: 9.0 (4.7, 13.3)								outcomes we won't report: Results are stratified by type of provider seen Receipt of AA referral: Faculty MDs G1: 2% G2: 3% Resident MDs G1: 5% G2: 2%	
							Mean # (95% CI) binge drinking days in past 30 days Faculty MDs G1: 4.7 (3.8, 5.7) G2: 4.2 (2.8, 5.6) Resident MDs G1: 3.9 (2.4, 5.5) G2: 5.2 (1.6, 8.8)								Receipt of detox or treatment referral: Faculty MDs	
							Mean (95%									

Author, year Country	CHANGE					Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes	
Trial name Trial length Sub- group(s)	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent										
							Patient received advice about drinking Faculty MDs G1: 64% G2: 42% Resident MDs G1: 38% G1: 59%								
							Patient received counseling about drinking Faculty MDs G1: 56% G2: 41% Resident MDs								

Author, year Country	CHANGE						Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, costs, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes	
Trial name Trial length Sub- group(s)	CHANGE in mean drinks per (SD) per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent											
							G1: 29% G1: 46%									
							Patient received advice to cut down Faculty MDs G1: 46% G2: 34% Resident MDs G1: 25% G1: 35%									
							Patient received advice to quit Faculty MDs G1: 14% G2: 11% Resident									

Author, year Country	Trial name	CHANGE in mean drinks per week			% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
								MDs G1: 13% G1: 12%							
Schaus et al., 2009 ³⁴ United States NA 12 months College students	6 months G1: -2.22 in avg G2: -0.69 drinks P = 0.007 per 9 months sitting: G1: -2.26 G2: -2.12 6 months P = 0.134 G1: - 12 0.872 G2: - months 0.341 G1: -1.93 0.341 G2: -2.33 P = 0.027 P = 0.700 @ 9 Overall months treatment G1: - differenc 0.708 e trend G2: - p=0.032 0.891 P = 0.928 @ 12 @ 12 months	Change in # heavy episodic drinking days per month @6 months G1: -1.12 G2: -0.09 P = 0.031 @ 9 months G1: -1.10 G2: -0.63 P = 0.534 @ 12 months	NR	NR	NR	Change in typical BAC @6 months G1: -0.019 G2: -0.007 P = 0.002 @ 9 months G1: -0.017 G2: -0.018 P = 0.603 @ 12 months G1: -0.016 G2: -0.020 P = 0.937 Overall treatment difference trend P =	All results are for college students	NR	NR	NR	Change in RAPI Sum score @6 / 9 / 12months G1: -9.14 / - 9.52 / -8.30 G2: -9.55 / - 9.93 / -8.74 P = 0.028 / P = 0.041 / P = 0.556 Overall treatment difference trend P = 0.030 Change in # times	NR			

Author, year Country	Trial name	length	Sub- group(s)	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/- or illegal SU	Comments
Scott & Anderson, 1990 ³⁵ United Kingdom NA	G1: -11.6 G2: -10.0 P = NS	NR		G1: 88% G2: 85% P = NS	G1: 27% G2: 26% P = NS	NR			NR	% (change from baseline) with abnormal dependenc e score G1: 39 (-34) G2: 33 (-8)	All results are for women.	% (change from baseline) with abnormal accident score G1: 0 (-3) G2: 3 (-2) P = NS	NR	Mean (SE) consultatio ns/year G1: 3.9 (0.7) G2: 5.9 (1.0) P = NS	Change in mean life quality score: G1: -0.3 G2: -0.3 P = NS	Change in mean anxiety score* G1: -2.3 G2: -4.8	* Anxiety outcome is reported but it was not designated as a harm measure a priori
12 months														Change in mean consultatio ns/year G1: -0.9 G2: +0.4	Change in mean life satisfaction score: G1: -14.9 G2: -12.7 P = NS	No significant changes in reported frequentie s of taking exercise, dieting to lose weight, or cigarette consumptio n over the duration of the trial or between	Change in mean Short GHQ score: G1: +0.9 G2: -1.5
Women only														Mean (SE) episodes/ye ar G1: 2.4 (0.5) G2: 4.2 (0.9)	% (change from baseline) with abnormal social score: G1: 15 (-6) G2: 8 (-10)	Change in mean affect balance score: G1: +0.6 G2: +0.3	Change in mean affect balance score: G1: +0.6 G2: +0.3
														Change in mean episodes/ye			% (change

Author, year Country	Primary outcomes						Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
Trial name Trial length Sub- group(s)	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)				
							intervention component s (of those in the intervention arm): 88% received the clinician message; 79% attended the counseling session; 70% received message and attended counseling; 2% received					

Author, year Country	Trial name	length	Sub- group(s)	CHANGE in mean drinks per drinking day	CHANGE in mean drinks per drinking day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related liver problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, opportu- nity costs / time, increased smoking +/or illegal SU	Comments / other outcomes
										no intervention elements							
Wallace et al., 1998 ³⁸	United Kingdom NA	12 months	Men, women	Change (SE) <i>Men @ 6 months:</i> G1: -15.5 (1.5) G2: -8.2 (1.5) P < 0.001 <i>Men @ 12 months:</i> G1: -18.2 (1.5) G2: - 8.1 (1.6) P < 0.001 <i>Women @ 6 months:</i>	NR	NR	In previous 7 days <i>Men @ 6 months:</i> G1: 40.9 G2: 23.6 P < 0.001 <i>Men @ 12 months:</i> G1: 43.7 G2: 25.5 P < 0.001 <i>Women @ 6 months:</i> G1: 46.9 G2: 26.3 P < 0.001 <i>Women @</i>	NR	NR	Proportion s with excessive alcohol consumpti on by number of GP sessions attended (change in GGT) <i>Men</i> 0: 79.2 (+0.4) 1: 65.1 (- 2.4) 2: 51.2 (+0.05) 3: 41.5 (-	Proportion of pts with excessive EtOH consumptio n at 12 months higher among those who were heavier smokers at start (Men chi square = 9.7 p<0.01 Women 3.7 p=0.06)	NR	Causes not specified: G1: 2 G2: 0	NR	Cigarette consumptio n dropped slightly among men and women in both groups but did not differ between groups. No evidence that smoking increased as alcohol consumptio n fell.		

Author, year Country	Trial name	length	Sub- group(s)	CHANGE in mean drinks (SD) per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% absti- nent	Receipt of and follow- up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol- related accidents and injuries, alcohol- related problems)	Mortality (specify all-cause mortality or alcohol- related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, legal issues, employ- ment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimi- nation, inter- ference with doctor/pt relation- ship, oppor- tunity costs / time, increased smoking +/- or illegal SU	Comments / other outcomes
				G1: -10.3 (1.3) G2: -8.0 (1.6) P = NS Women @ 12 months: G1: -11.5 (1.6) G2: -6.3 (2.0) P < 0.05			12 months: G1: 47.7 G2: 29.2 P < 0.05			5.2) 4: 40.7 (- 6.6) Women 0: 66.7 (+0.1) 1: 72.2 (- 0.1) 2: 54.5 (- 0.2) 3: 40.0 (+0.8) 4: 31.3 (+0.8)						No significant change in reported frequency of exercise or dieting to lose weight among either men or women.	
										Within individual change in GGT at 12 months Men G1: -2.4 G2: +1.1							

Author, year	Country	Trial name	CHANGE in mean drinks per week	CHANGE in mean drinks per day	% Not bingeing	% achieving moderate / safe drinking	% abstinent	Receipt of and follow-up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol-related injuries, alcohol-related liver problems)	Mortality (specify all-cause mortality or alcohol-related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, costs, legal issues, employment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimination, interference with doctor/pt relationship, opportunity costs / time, increased smoking +/or illegal SU / other outcomes)	Comments
									p<0.01 Women G1: +0.3 G2: +0.5 NR/NS							
									Change in systolic BP: Men G1: - 6.8mmHG G2: - 4.7mmHg p<0.05							
									Among those in the treatment group, the proportion who							

Author, year	Country	Trial name	Trial length	Sub-group(s)	CHANGE in mean drinks per week	CHANGE in mean drinks per drinking day	% Not bingeing	% achieving moderate / safe drinking	% abstinent	Receipt of and follow-up with referrals	Other outcomes (be specific)	Subgroup analyses (other than by sex/ gender)	Morbidity (e.g., alcohol-related accidents and injuries, alcohol-related liver problems)	Mortality (specify all-cause mortality or alcohol-related mortality)	Health care utilization (e.g., number of ER visits) - specify outcome	Other: quality of life, sick days, costs, legal issues, employment stability (by group)	Harms (e.g., anxiety, stigma / labeling / discrimination, interference with doctor/pt relationship, opportunity costs / time, increased smoking +/or illegal SU / other outcomes
											attended 1,2,3,4 sessions	Men					
											1: 83.3%						
											2: 57.2%						
											3: 31.4%						
											4: 18.6%						
											Women						
											1: 92.3%						
											2: 65.4%						
											3: 40.0%						
											4: 24.6%						

Evidence Table 5. Data for KQ 2 from systematic reviews

KQ 2 Data

KQ2 SYSTEMATIC REVIEWS									
Identifiers		Study Description					Outcomes		Comments
First author Year	Funding source	Aim(s) of Review (copy from article)	Inclusion criteria (copy from article)	Exclusion criteria (copy from article)	Number of studies included	Total number of patients	List of screening instruments included	Main results	Comments
Berks, 2008 ³⁹	Other or NR	not explicit: to determine appropriate alcohol screening tests in older adult population	English studies focusing on screening in 60+ year olds, patients presenting to primary care	excluded if gave average age but no cutoff, no gold-standard comparator, allowed test result to influence decision to perform gold-standard, if included data insufficient for calculation of sensitivity and specificity	9. 8 analyzed together with 1 separate	6353	CAGE for alcohol abuse/dependence CAGE for hazardous/excessive drinking MAST for abuse/dependence MAST-G for abuse/dependence SMAST for heavy drinking AUDIT for abuse/dependence AUDIT for hazardous AUDIT-C for hazardous ARPS for hazardous/harmful shARPS for hazardous/harmful SMAST-G for hazardous	CAGE for abuse/dependence: cutoff of ≥ 1 sens: 79-88%, spec: 56-88% CAGE for hazardous/excessive: cutoff of ≥ 1 sens: 31-60%, spec: 92-100%. ***cutoff of ≥ 2 sens: 14-39%, spec: 97-97.1% MAST for abuse/dependence: cutoff of ≥ 4 : sens 91%, spec 84% ***cutoff of ≥ 3 sens: 64-97%, spec: 67-79% MAST-G for abuse/dependence: cutoff ≥ 5 : sens 70-91%, spec 81-84% 2 studies compared MAST vs CAGE: one showed MAST slightly better, other showed CAGE was better SMAST for heavy drinking: cutoff ≥ 2 : sens 48%, spec 100% AUDIT for	*aim not explicitly stated: determine 'best' screening test in 60+ population using sensitivity/spec ificity *funding not reported *narrative synthesis of included studies. No meta-analysis conducted.

KQ2 SYSTEMATIC REVIEWS

Identifiers		Study Description						Outcomes	Comments
First author Year	Funding source	Aim(s) of Review (copy from article)	Inclusion criteria (copy from article)	Exclusion criteria (copy from article)	Number of studies included	Total number of patients	List of screening instruments included	Main results	Comments
								abuse/dependence: >=8: sens 33%, spec 91% AUDIT for hazardous: >=8: sens 67%, spec 95% AUDIT-C for hazardous: >=3: sens 100%, spec 81% Moore 2002: ARPS for hazardous: unclear cutoff: sens 93%, spec 63% shARPS for hazardous: unclear cutoff: sens 92%, spec 51% AUDIT for hazardous: >=8 sens 28%, spec 100% SMAST-G for hazardous: >=2 sens 52%, spec 96% conclusions: AUDIT appears superior to others for hazardous (AUDIT-C as good or better than AUDIT), CAGE appears better for abuse/dependence screening If age-specific definitions of hazardous/harmful needed then ARPS and variations are superior.	

KQ2 SYSTEMATIC REVIEWS

Identifiers		Study Description						Outcomes	Comments
First author Year	Funding source	Aim(s) of Review (copy from article)	Inclusion criteria (copy from article)	Exclusion criteria (copy from article)	Number of studies included	Total number of patients	List of screening instruments included	Main results	Comments
Berner, 2007 ⁴⁰	Government	assess diagnostic accuracy of AUDIT for detection of at risk drinking	*AUDIT compared with reference standard of at-risk consumption assessed by quantity/frequency and/or heavy episodic drinking frequency *used 10 item AUDIT *compared with same reference in all subjects regardless of result *AUDIT not used as reference standard *reference test performed within 1 month *AUDIT performed by >50% of participants	na	23 (27 articles) included in review, 19 for meta-analysis	25,940 total, 23,190 in meta-analysis	AUDIT	AUDIT cutoff 8 points: primary care: sens 0.31-0.89, spec 0.83-0.96, pooled LR+: 6.78, LR-: 0.40, OR: 18.3 inpatient: se 0.93, sp 0.94, LR+: 15.07, LR-: 0.08, OR: 198.0 ED: se 0.72, sp 0.88, LR+: 6.09, LR-: 0.32, OR: 19.1 university: se 0.82, spec 0.88, LR+: 3.73, LR-: 0.23, OR: 15.99 older adults: se 0.55-0.83, sp 0.96 (pooled), LR+: 20.11, LR-: 0.33, OR: 59.8 large heterogeneity in studies partly explained by setting, thus could not pool 17 studies together	*only compares 10 item AUDIT to reference standard of quantity/frequency questions or frequency of episodic heavy drinking *authors concluded AUDIT use restricted to primary care, inpatients, older adults *used quantity/frequency and/or heavy episodic drinking as reference standard *8 studies in primary care, pooled results of these included
Bradley, 1998 ⁴¹	Government	describe performance of alcohol screening questionnaires for heavy drinking/abuse/dependence in	*studies with women comparing brief alcohol screening with valid standard for heavy drinking/abuse/d	*studies outside of US *studies not published in English *excluded nonclinical and special	9 (13 articles)	12,407 total (includes females and males) About 10,883	studies included CAGE, TWEAK, AUDIT, T-ACE, BMAST, NET	CAGE for abuse/dependence: >=2: auROC 0.84-0.92 in mainly black populations, se 0.38-0.50 in mainly white populations TWEAK and AUDIT	*mentions heterogeneity but does not quantify

KQ2 SYSTEMATIC REVIEWS									
Identifiers		Study Description				Outcomes		Comments	
First author Year	Funding source	Aim(s) of Review (copy from article)	Inclusion criteria (copy from article)	Exclusion criteria (copy from article)	Number of studies included	Total number of patients	List of screening instruments included	Main results	Comments
		females in general clinical populations in the US	dependence in US general clinical population (DSM or ICD criteria assessed via DIS, Composite International Diagnostic Interview, Alcohol Use Disorder and Associated Disabilities Interview Schedule, timeline follow-back) *screening questionnaires with 10 or less items (CAGE, BMAST, T-ACE, TWEAK, NET, AUDIT) except for MAST, SMAST, SAAST *limited to studies in US	clinical populations (college, after DWI) *excluded studies with patients in alcohol/drug treatment programs *studies without valid comparison group *excluded data regarding screening for ICD harmful use *excluded studies using self-administered questions for estimates of typical quantity/frequency as reference standard		women		for abuse/dependence: se: <0.80, auROC 0.87-0.93 AUDIT for heavy drinking: auROC 0.87 TWEAK and T-ACE heavy drinking before pregnancy: auROC 0.84-0.87 in black OB patients no pooling of data due to subjective heterogeneity (but not statistically assessed) primary care only: CAGE >=2 for abuse/dependence in 80% black population: se 0.74, sp 0.93 CAGE >=2 for abuse/dependence in 93% white population: se 0.38, sp 0.92 AUDIT for abuse/dependence: auROC 0.87-0.93 AUDIT for heavy drinking: auROC 0.86-0.87 *authors concluded that CAGE, AUDIT, TWEAK performed best for identifying	

KQ2 SYSTEMATIC REVIEWS									
Identifiers		Study Description				Outcomes		Comments	
First author Year	Funding source	Aim(s) of Review (copy from article)	Inclusion criteria (copy from article)	Exclusion criteria (copy from article)	Number of studies included	Total number of patients	List of screening instruments included	Main results	Comments
								dependence in black women (TWEAK best for white women) and that AUDIT was the only screening test assessed for identifying heavy drinking in non-obstetric population but was effective Also suggested brief screens may be less sensitive for abuse/dependence among women because consumption questions based on male drinking *appears no statistical differences in performance based on auROC for females vs males *alcohol screening performance may vary by ethnicity	
Burns, 2010 ⁴²	Academic	investigate performance of brief alcohol screening questionnaires to identify problem drinking in pregnant women	*cohort/cross sectional studies comparing brief alcohol screening instruments with reference criteria using structured interviews to detect at-risk drinking/abuse/d	*excluded case-control studies *excluded studies that used methods other than structured interview as referent	5	6,724	TWEAK, T-ACE, CAGE, NET, AUDIT, AUDIT-C, SMAST	for at risk drinking: T-ACE: se 0.69-0.88, sp 0.71-0.89 TWEAK: se 0.71-0.91, sp 0.73-0.83 AUDIT-C se 0.95, sp 0.85 CAGE ≥ 2 : se 0.38-0.49, sp 0.92-0.93 NET ≥ 1 : se 0.71, sp 0.86	*authors concluded that T-ACE, TWEAK, AUDIT-C have promise for screening for prenatal at risk drinking and AUDIT-C may be helpful to

KQ2 SYSTEMATIC REVIEWS									
Identifiers		Study Description			Outcomes			Comments	
First author Year	Funding source	Aim(s) of Review (copy from article)	Inclusion criteria (copy from article)	Exclusion criteria (copy from article)	Number of studies included	Total number of patients	List of screening instruments included	Main results	Comments
			ependency in pregnant women receiving prenatal care *any age/ethnicity *included only brief screening questionnaires (AUDIT, AUDIT-C, AUDIT-3, CAGE, SMAST, T-ACE, TWEA, NET) *reference standard based on quantity/frequency from structured interview (AUDADIS or timeline follow-back) or clinical diagnoses from DSM or ICD-10	(biomarkers, self-administered questionnaires)				<p>SMAST: se 0.11, sp 0.96 T-ACE and TWEAK higher auROC vs CAGE and NET TWEAK, T-ACE, AUDIT-C highest sensitivities for at-risk T-ACE, TWEAK lower PPVs than AUDIT-C CAGE and SMAST performed poorly versus others for identifying at-risk</p> <p>abuse/dependence: AUDIT-C ≥ 3: dependence: se 1, sp 0.71. AUD: se 0.96, sp 0.71 AUDIT ≥ 8: lifetime dependency performed poorly AUDIT had higher auROC than T-ACE, SMAST</p> <p>*Table 4 has complete results</p>	identify dependency/abuse. CAGE did not perform well.
Fiellin, 2000 ⁴³	Multiple	evaluate accuracy of screening methods for alcohol problems in primary care	*published in peer-reviewed journal *studies in English * primary care setting * reported	*studies not in English or were performed outside of primary care * studies that did not report	38 11 for at-risk/hazardous/harmful 27 for abuse/dependence	NR	AUDIT and AUDIT variations, CAGE, MAST, 2-question Cyr/Wartman, general health screen, quantity-frequency, clinical indicators including	at-risk/hazardous/harmful: AUDIT ≥ 8 most effective for at-risk/hazardous/harmful: se 0.51-0.97, sp	*narrative synthesis *authors state few studies performed comparisons among multiple

KQ2 SYSTEMATIC REVIEWS

Identifiers		Study Description				Outcomes	Comments		
First author Year	Funding source	Aim(s) of Review (copy from article)	Inclusion criteria (copy from article)	Exclusion criteria (copy from article)	Number of studies included	Total number of patients	List of screening instruments included	Main results	Comments
			performance (sens/spec) of screening methods compared to a criterion standard (structured interview)	performance of screening methods *excluded reviews, letters, editorials *excluded studies that did not have comparators			recognition/lab tests	0.78-0.96 CAGE >=2 for at-risk/hazardous/harmful: se 0.14 - 0.84, sp 0.74-0.97 SMAST >=2: se 0.68, sp 0.92 single question screen for problem drinking: se 0.62, sp 0.93 CDT for heavy drinking: se 0.39-0.69, sp 0.29-0.81 GGT for heavy drinking: se 0.77, sp 0.81 in one study but limited utility for MCV, AST, ALT abuse/dependence: CAGE most effective for abuse/dependence: se 0.43-0.94, sp 0.70-0.97 CAGE >=2 for abuse/dependence: se 0.21-0.94, sp 0.77-0.97 CAGE >=1 for abuse/dependence: se 0.60-0.71, sp 0.84-0.88 AUDIT for abuse/dependence: se 0.33-0.93, sp 0.89-0.97	screening instruments

KQ2 SYSTEMATIC REVIEWS

Identifiers		Study Description						Outcomes	Comments
First author Year	Funding source	Aim(s) of Review (copy from article)	Inclusion criteria (copy from article)	Exclusion criteria (copy from article)	Number of studies included	Total number of patients	List of screening instruments included	Main results	Comments
								SMAST ≥ 2 for abuse/dependence: se 0.48-1, sp 0.85-0.97 Cyr/Wartman: se 0.48-0.91, sp 0.76-0.93 (vs MAST as referent) single question: se 0.40-0.70, sp 0.93-0.99 TWEAK: se 0.75, sp 0.90 quantity-frequency: se 0.20- 0.50, sp 0.87-0.97 based on cutoff Alcohol Clinical Index: se 0.28, sp 0.86 Health Screening Survey: se 0.78, sp 0.71	
Table 6.									

Evidence Table 6. Data from systematic reviews for KQs 1 and 3 through 7

Study Description							Outcomes		Comments	
Author, Year	Funding source	Aim(s) of Review	Inclusion criteria	Exclusion criteria	# of studies included	Total # of patients	List studies included in this SR that are not included in our CER	List studies included in our CER that are not included in this SR	Main results	Comments
Kaner, 2007 ⁴⁴	Government	to assess effectiveness of brief intervention in primary care setting to reduce alcohol consumption, also to assess if difference in outcomes for trials conducted in research setting versus routine practice setting	*RCTs including cluster RCTs * patients presenting to PC not specifically for alcohol treatment whose drinking is identified as excessive or harmful *brief intervention up to 4 sessions versus comparator (usual care or extended intervention)	excluded trials with referrals for specialist care	29 total trials (24 general practice, 5 ED) 22 or 25 studies included in meta-analysis (unclear: search strategy in Figure 1 different from abstract)	7619	Aalto 2000, 2001 (quality) Altisent 1997 (non-English) <i>Chang 1997 (not found in search * added to list of handsearched refs)</i> Cordoba 1998 (quality) Crawford 2004 (exc setting) Diez 2002 (non-English) Fernandez 1997 (non-English) Fleming 2004 (exc: intervention) Gentilelo 1999 (exc setting) Heather 1987 (quality) Huas 2002 (non-English) Israel 1996 (exc population) Kunz 2004 (exc setting) Longabaugh 2001 (exc setting) McIntosh 1997	Curry 2003 TrEAT papers Fleming 1999 Lock 2006 ELM papers Ockene/Reiff-Hekking Richmond 1995 Anderson; Scott Senft Wallace	*BI group had lower alcohol consumption at follow up of one year or more versus usual care: mean difference -38 g/week, (CI: -54,-23). heterogeneity (I2=57%) - about 4-5 drinks/week. *BI in men: -57 g/week (CI: -89,-25). I2=56% for subgroup of 6 or 8 studies, n=2307 *BI in women: -10 g/week (CI: -48, 29). I2=45% *no difference in longer treatment exposure or trials that were less clinically representative *no difference in efficacy vs effectiveness trials *extended intervention trended towards a reduction but was non-significant: -28 g/week (CI:-62,6) *no difference in frequency of binge drinking for BI vs control for 3 trials that reported this information (mean: -0.3, CI:-0.6,0.0 binges/week) *no difference in number of drinking days/week for BI vs control for 3 trials (mean: -0.04, CI:-0.5, 0.4	*extended intervention defined as one that is unlikely to occur in primary care due to length or intensity *effect of BI clear in men at one year, but not in women *longer duration of counselling likely has little additional effect *unclear if inclusion criteria included those with dependency - included trials usually attempted to exclude dependents but some did not report exclusion criteria *substantial heterogeneity among trials in

Study Description							Outcomes		Comments
Author, Year	Funding source	Aim(s) of Review	Inclusion criteria	Exclusion criteria	# of studies included	Total # of patients	List studies included in this SR that are not included in our CER	List studies included in our CER that are not included in this SR	Comments
							(quality) Rodriguez papers (exc setting) Romelsjo 1989 (quality) Seppa 1992 (exc population) Tomson 1998 (exc population)		drinking days/week *no difference in intensity of drinking for BI vs control for 5 trials (mean: -3.1, CI: -8.8, 2.6 grams/drinking day) *no difference in GGT for BI vs controls for 3 trials (mean:-1.1, CI: -3.9, 1.7 IU/L) *heavy drinkers reported in 9 trials, not in meta-analysis because of different definitions among trials of heavy drinking *4 trials reported % of binge drinkers, overall reduction in % of binge drinkers in BI vs control group (RD: -11%, CI: -19, -3%) Adverse effects: *Crawford 2004: reported 0.5 fewer ED visits for BI group vs control during year after randomization *Gentilelo 1999: reported 47% reduction in new injuries requiring ED or trauma readmission for BI vs control, but no difference in death rate *Longabaugh 2001: reported those in extended intervention group had fewer Drinker

settings (PC vs ED), populations, screening instrument, baseline consumption, intervention

Study Description							Outcomes		Comments
Author, Year	Funding source	Aim(s) of Review	Inclusion criteria	Exclusion criteria	# of studies included	Total # of patients	List studies included in this SR that are not included in our CER	List studies included in our CER that are not included in this SR	Comments
									<p>Inventory of Consequences scores at one year vs controls *Romelsjo 1989: reported no difference in 'alcohol problem index' for BI vs controls</p> <p>HRQoL: Crawford 2004: no difference in GHQ/EQ-5D scores at 12 months Lock 2006: no difference in DPI, SF-12 scores at 12 months</p> <p>Cost: Lock 2006: no difference in total healthcare cost including delivery cost for BI vs control</p>

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Appendix D. Quality Criteria

The Methods Work Group for the US Preventive Services Task Force (USPSTF) developed a set of criteria by which the internal validity of individual studies could be evaluated.¹ The USPSTF accepted the criteria, and the associated definitions of quality categories, that relate to internal validity at its September 1999 meeting.

This appendix describes the criteria relating to internal validity and the procedures that topic teams follow for all updates and new assessments in making these judgments.

All topic teams use initial “filters” to select studies for review that deal most directly with the question at issue and that are applicable to the population at issue. Thus, studies of any design that use outdated technology or that use technology that is not feasible for primary care practice may be filtered out before the abstraction stage, depending on the topic and the decisions of the topic team. The teams justify such exclusion decisions if there could be reasonable disagreement about this step. The criteria below are meant for those studies that pass this initial filter.

Presented below are a set of minimal criteria for each study design and then a general definition of three categories: “good,” “fair,” and “poor,” based on those criteria. These specifications are not meant to be rigid rules but rather are intended to be general guidelines, and individual exceptions, when explicitly explained and justified, can be made. In general, a “good” study is one that meets all criteria well. A “fair” study is one that does not meet (or it is not clear that it meets) at least one criterion but has no known “fatal flaw.” “Poor” studies have at least one fatal flaw.

Systematic Reviews

Criteria:

- Comprehensiveness of sources considered/search strategy used
- Standard appraisal of included studies
- Validity of conclusions
- Recency and relevance are especially important for systematic reviews

Definition of ratings from above criteria:

Good: Recent, relevant review with comprehensive sources and search strategies; explicit and relevant selection criteria; standard appraisal of included studies; and valid conclusions.

Fair: Recent, relevant review that is not clearly biased but lacks comprehensive sources and search strategies.

Poor: Outdated, irrelevant, or biased review without systematic search for studies, explicit selection criteria, or standard appraisal of studies.

Case-Control Studies

Criteria:

- Accurate ascertainment of cases
- Nonbiased selection of cases/controls with exclusion criteria applied equally to both
- Response rate

- Diagnostic testing procedures applied equally to each group
- Measurement of exposure accurate and applied equally to each group
- Appropriate attention to potential confounding variables

Definition of ratings based on criteria above:

Good: Appropriate ascertainment of cases and nonbiased selection of case and control participants; exclusion criteria applied equally to cases and controls; response rate equal to or greater than 80 percent; diagnostic procedures and measurements accurate and applied equally to cases and controls; and appropriate attention to confounding variables.

Fair: Recent, relevant, without major apparent selection or diagnostic work-up bias but with response rate less than 80 percent or attention to some but not all important confounding variables.

Poor: Major selection or diagnostic work-up biases, response rates less than 50 percent, or inattention to confounding variables.

Randomized Controlled Trials and Cohort Studies

Criteria:

- Initial assembly of comparable groups: for RCTs: adequate randomization, including first concealment and whether potential confounders were distributed equally among groups; for cohort studies: consideration of potential confounders with either restriction or measurement for adjustment in the analysis; consideration of inception cohorts
- Maintenance of comparable groups (includes attrition, cross-overs, adherence, contamination)
- Important differential loss to follow-up or overall high loss to follow-up
- Measurements: equal, reliable, and valid (includes masking of outcome assessment)
- Clear definition of interventions
- All important outcomes considered
- Analysis: adjustment for potential confounders for cohort studies, or intention to treat analysis for RCTs.

Definition of ratings based on above criteria:

Good: Meets all criteria: Comparable groups are assembled initially and maintained throughout the study (follow-up at least 80 percent); reliable and valid measurement instruments are used and applied equally to the groups; interventions are spelled out clearly; all important outcomes are considered; and appropriate attention to confounders in analysis. In addition, for RCTs, intention to treat analysis is used.

Fair: Studies will be graded “fair” if any or all of the following problems occur, without the fatal flaws noted in the “poor” category below: Generally comparable groups are assembled initially but some question remains whether some (although not major) differences occurred with follow-up; measurement instruments are acceptable (although not the best) and generally applied equally; some but not all important outcomes are considered; and some but not all potential confounders are accounted for. Intention to treat analysis is done for RCTs.

Poor: Studies will be graded “poor” if any of the following fatal flaws exists: Groups assembled initially are not close to being comparable or maintained throughout the study; unreliable or invalid measurement instruments are used or not applied at all equally among groups (including not masking outcome assessment); and key confounders are given little or no attention. For RCTs, intention to treat analysis is lacking.

Diagnostic Accuracy Studies

Criteria:

- Screening test relevant, available for primary care, adequately described
- Study uses a credible reference standard, performed regardless of test results
- Reference standard interpreted independently of screening test
- Handles indeterminate results in a reasonable manner
- Spectrum of patients included in study
- Sample size
- Administration of reliable screening test

Definition of ratings based on above criteria:

Good: Evaluates relevant available screening test; uses a credible reference standard; interprets reference standard independently of screening test; reliability of test assessed; has few or handles indeterminate results in a reasonable manner; includes large number (more than 100) broad-spectrum patients with and without disease.

Fair: Evaluates relevant available screening test; uses reasonable although not best standard; interprets reference standard independent of screening test; moderate sample size (50 to 100 subjects) and a “medium” spectrum of patients.

Poor: Has fatal flaw such as: Uses inappropriate reference standard; screening test improperly administered; biased ascertainment of reference standard; very small sample size or very narrow selected spectrum of patients.

Criteria for Assessing External Validity (Generalizability) of Individual Studies

Each study that is identified as one that provides evidence to answer a KQ is assessed by according to its external validity (generalizability) using the following criteria.

Study Population:

The degree to which the people who were involved as subjects in the study constitute a special population because they were selected from a larger eligible population or were for other reasons unrepresentative of people who are likely to seek or be candidates for the preventive service. The selection has the potential to affect the following:

- absolute risk: The background rate of outcomes in the study could be greater or less than what might be expected in asymptomatic people because of the inclusion/exclusion criteria, because of non-participation, or for other reasons.
- harms: The harms observed in the study could be greater or less than what might be expected in asymptomatic people.

- The following are features of the study population and the study design that may cause experience in the study to be different from what would be observed in the US primary care population:
- demographics (age, gender, ethnicity, education, income): The criteria for inclusion/exclusion or non-participation do not encompass the range of people likely to be candidates for the preventive services in the US primary care population.
- co-morbidities: the frequency of co-morbid conditions in the study population does not represent of the frequency likely to be encountered in people who seek the preventive service in the U.S. primary care population.
- special inclusion/exclusion criteria: There are other special inclusion/exclusion criteria that make the study population unrepresentative.
- refusal rate (ratio of included to not-included but eligible participants): The refusal rate among eligible study subjects is high, making the enrollees in the study unrepresentative even of the people eligible for the study.
- adherence (run-in phase, frequent contact to monitor adherence): The design of the study has features that may make the effect of the intervention in the study greater than it would be in a clinically observed population.
- stage in natural history of disease; severity of disease: the selection of subjects for the study includes people with at a stage that is earlier or later than would be found in people who are candidates for the preventive service.
- source, intensity of recruitment: The sources for recruiting subjects for the study and/or the effort and intensity of recruitment may distort the characteristics of the study subjects in ways that could increase the effect of the intervention as it is observed in the study.

Situation:

The degree to which the clinical experience in the situation in which the study was conducted is likely to be reproduced in other settings

- healthcare system: The clinical experience in the system in which the study was conducted is not likely to be the same as experience in other systems because, for example, the system provides essential services for free when these services are only available at a high cost in other systems.
- country: The clinical experience in the country in which the study was conducted is not likely to be the same as in the U.S. because, for example, services available in the U.S. are not widely available in the other country of study conduct or vice versa.
- selection of participating centers: The clinical experience in which the study was conducted is not likely to be same as in offices/hospitals/settings in which the service will be delivered to the U.S. primary care population because, for example, the centers have ancillary services not available generally.
- time, effort, and system cost for the intervention: The time, effort, and cost to develop the service in the study is more than would be available outside the study setting.

Providers:

The degree to which the providers in the study have the skills and expertise likely to be available in general settings

- training to implement the intervention: The intervention in the study was done after giving providers special training not likely to be available or required in U.S. primary care settings
- expertise, skill to implement intervention: The providers included in the study had expertise and/or skills at a level that is higher than the level likely to be encountered in typical settings.
- ancillary providers: The study intervention relied on ancillary providers who are not likely to be available in typical settings.

Global Rating of External Validity (Generalizability):

External validity is rated “good” if the study differs minimally from the US primary care population/ situation/ providers and only in ways that are unlikely to affect the outcome; it is highly probable (>90%) that the clinical experience with the intervention observed in the study will be attained in the US primary care setting.

External validity is rated “fair” if the study differs from the US primary care population/ situation/ providers in a few ways that have the potential to affect the outcome in a clinically important way; it is only moderately probable (50%-89%) that the clinical experience with the intervention in the study will be attained in the US primary care setting.

External validity is rated “poor” if the study differs from the US primary care population/ situation/ providers in many way that have a high likelihood of affecting the clinical outcomes; the probability is low (<50%) that the clinical experience with the intervention observed in the study will be attained in the US primary care setting.

1. U.S. Preventive Services Task Force. Section 3.2: Methods Relevant to Work Plan Development. Rockville, MD: Agency for Healthcare Research and Quality; July 2008. AHRQ Publication No. 08-05118-EF. Available at: <http://www.uspreventiveservicestaskforce.org/uspstf08/methods/procmanual.htm>. Accessed June 27, 2011.

Table D-1. Quality ratings for efficacy / effectiveness trials

First author, year Trial name	Was randomization adequate?	Was allocation concealment adequate?	Were groups similar at baseline ?	Were outcome assessors masked?	Were care providers masked?	Were patients masked?	Was overall attrition ≥20%?	Was differential attrition ≥15%?	Did the study use ITT analyses ?	Were outcome measures equal, valid and reliable?	Efficacy / Effectiveness quality rating
Anderson & Scott, 1992 ¹ NA	No	No	Yes	Yes	No	No	Yes	No	Yes	Yes	Fair
Babor, 1996 ² WHO Brief Intervention	Yes	Yes	Unclear / NR	Unclear / NR	No	Yes	Yes	Unclear / NR	Yes	Yes	Fair
Bischof et al., 2008 ³ Grothues et al., 2008 ⁴ Reinhardt et al., 2008 ⁵ SIP	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Fair
Chang et al., 1999 ⁶ NA	Yes	Unclear / NR	No	Yes	Unclear / NR	No	No	No	Unclear / NR	Yes	Fair
Curry et al., 2003 ⁷ NA	Unclear / NR	Unclear/NR	Yes	Yes	No	No	Yes	No	Modified ITT	Yes	Fair
Fleming et al., 1997 ⁸ Fleming et al., 2000 ⁹ Fleming et al., 2002 ¹⁰ Grossberg et al., 2000 ¹¹ Manwell et al., 2004 ¹² Project TrEAT	Yes	Unclear / NR	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Good
Fleming et al., 1999 ¹³ Mundt et al., 2005 ¹⁴ GOAL	Unclear / NR	Unclear / NR	Yes	Unclear / NR	Yes	Yes	No	No	No	Yes	Fair

First author, year Trial name	Was randomization adequate?	Was allocation concealment adequate?	Were groups similar at baseline ?	Were outcome assessors masked?	Were care providers masked?	Were patients masked?	Was overall attrition ≥20%?	Was differential attrition ≥15%?	Did the study use ITT analyses ?	Were outcome measures equal, valid and reliable?	Efficacy / Effectiveness quality rating
Fleming, et al., 2008 ¹⁵ Wilton, et al., 2009 ¹⁶ Healthy Moms	Yes	Unclear / NR	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Good
Fleming et al., 2010 ¹⁷ CHiPs	Yes	Unclear / NR	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Good
Kypri et al., 2004 ¹⁸ NA	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes	Fair
Kypri et al., 2007 ¹⁹ Kypri et al., 2008 ²⁰ NA	Yes	Yes	Yes	Yes	Unclear / NR	Yes	No	No	No	Yes	Good
Lin et al., 2010 ²¹ Moore et al., 2010 ²² HLAYA	Yes	Yes	Yes	Yes	No	No	No	Yes	Modified ITT	Yes	Fair
Lock et al., 2006 ²³ NA	Unclear / NR	Unclear / NR	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Fair
Maisto et al., 2001a ²⁴ Maisto et al., 2001b ²⁵ Gordon et al., 2003 ²⁶ ELM	Yes	No	Yes	Yes	Unclear / NR	No	Yes	Yes	No	Yes	Fair
Noknoy et al., 2010 ²⁷ NA	Yes	Yes	Yes	Yes	Unclear / NR	Yes	No	No	No	Yes	Fair
Ockene et al., 1999 ²⁸ Ockene et al., 2009 ²⁹	Yes	Unclear / NR	No	Yes	No	Yes	No	No	No	Yes	Fair

First author, year Trial name	Was randomization adequate?	Was allocation concealment adequate?	Were groups similar at baseline ?	Were outcome assessors masked?	Were care providers masked?	Were patients masked?	Was overall attrition ≥20%?	Was differential attrition ≥15%?	Did the study use ITT analyses ?	Were outcome measures equal, valid and reliable?	Efficacy / Effectiveness quality rating
Reiff-Hekking et al., 2005 ³⁰ Project Health											
Richmond et al., 1995 ³¹ NA	Yes	Unclear / NR	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Fair
Rubio et al., 2010 ³² NA	Yes	Unclear / NR	Yes	Yes	No	Unclear / NR	No	No	Yes	Yes	Fair
Saitz et al., 2003 ³³ SIP	Yes	Yes	Yes	Yes	No	No	No	No	No	Yes	Fair
Schaus et al., 2009 ³⁴ NA	Yes	Yes	Yes	No	No	No	Yes	No	No	Yes	Fair
Scott & Anderson, 1990 ³⁵ NA	No	No	Yes	Yes	No	No	Yes	No	Yes	Yes	Fair
Senft et al., 1997 ³⁶ Freeborn et al., 2000 ³⁷ NA	Unclear / NR	Unclear / NR	Yes	Yes	Unclear / NR	No	No	Unclear / NR	Yes	Yes	Fair
Wallace et al., 1998 ³⁸ NA	Unclear / NR	Unclear / NR	Yes	Yes	No	No	No	Unclear / NR	Modified ITT	Yes	Fair

Abbreviations: ELM, Early Lifestyle Modification; GOAL, Guiding Older Adults Lifestyles; HLAYA, Healthy Living As You Age; ITT, intent-to-treat; NA, not applicable; NR, not reported; SIP (Bischof, et al), Stepped Intervention for Problem Drinkers; SIP (Saitz, et al.), Screening and Intervention in Primary Care; TrEAT, Trial for Early Alcohol Treatment

Table D-2. KQ 2 Quality

Author Year	Trial name	Was randomi- zation adequat e?	Was on conceal- ment adequat e?	Were group similar at baseline?	Were outco- me assess- ed?	Were care provid- ed?	Were patients masked?	Was overall attrition ≥20%?	Was differ- ential attrition ≥15%?	Did the study use ITT analysis?	Were outco- me measu- res equal, valid and reliab- le?	EFFICACY EFFECTIV- ENESS QUALITY RATING	Were harms prespe- cified and defined?	Were technique es for harms adequat- ely describe d?	Were technique es for harms equal, valid and reliable?	Was the duration of follow- up adequat- e for harms assess- ment?	HARMS ASSESS- MENT QUALIT- Y RATING	Notes; explain poor ratings
Anderson, 1992 ¹	NA	No	No	Yes	Yes	No	No	Yes	No	Yes	Yes	Fair	Mixed	No	Mixed	Yes	Fair	
Babor / WHO, 1996 ²	WHO-CPITPH AC	Yes	Yes	Unclear / NR	Unclear / NR	No	Yes	Yes	Unclear / NR	Yes	Yes	Fair	NR	NR	NR	NR		Unclear if comparable groups were maintained (From the previous report "Possible noncomparable groups at baseline and follow-up, potential contamination across intervention conditions"); 25% attrition;
Bischof, 2008 ³	EARLY T	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Fair	NR	NR	NR	NR		slightly higher numerical percentage of subjects with alcohol dependence in the FC group than the SC or control groups (38.2% vs. 27.5% vs. 25.9%, P = 0.158)
Grothues, 2008 ⁴																		
Reinhardt, 2008 ⁵																		
Chang, 1999 ⁶	NA	Yes	Unclear / NR	No	Yes	Unclear / NR	No	No	No	Unclear / NR	Yes	Fair	NR	NR	NR	NR		Groups were similar at baseline for

Author Year	Trial name	Was randomi zation adequat e?	Was on conceal ment adequat e?	Were group s r at ne?	Were outco me asses d?	Were care provid mask mask ed?	Were II on mask mask ed?	Was overa ll on mask mask ed?	Was differe ntial attritio n ≥15%?	Did the study use ITT analys es?	Were outco me measu res equal, / valid and reliabl e?	EFFICACY EFFECTIV ENESS QUALITY RATING	Were harms cified and defined ?	Were techniqu es for harms adequat ely describe d?	Were techniqu es for harms equal, valid and reliable?	Was the duration of follow- up adequat e for harms assess ment?	HARMS ASSESS MENT QUALIT Y RATING	Notes; explain poor ratings
Curry, 2003 ⁷	NA	Unclear / NR	Unclear / NR	Yes	Yes	No	No	Yes	No	Modified ITT	Yes	Fair	NR	NR	NR	NR	NR	333 subjects were randomized; 26 of those were "unrandomized" because they did not keep their initial appointment. Of the 307 included in the analyses, attrition (for completion of the

Author Year	Trial name	Was randomi- zation adequat e?	Was on conceal- ment adequat e?	Were group similar r at ne?	Were outco- me asses d?	Were care provid- ed? mask	Were patien- ts mask- ed?	Was overall attriti- on ≥20% ?	Was differ- ential attriti- on ≥15% ?	Did the study use ITT analys- es?	Were outco- me measu- res equal, valid and reliabl- e?	EFFICACY EFFECTIV- ENESS QUALITY RATING	Were harms prespe- cified and defined ?	Were techniqu- es for harms adequat- ely describe d?	Were techniqu- es for harms equal, valid and reliable ?	Was the duration of follow- up adequat- e for harms assess- ment?	ASSESS MENT QUALIT- Y RATING	Notes; explain poor ratings
Fleming, 1997 ⁸ Fleming, 2000 ⁹ Fleming, 2002 ¹⁰ Manwell, 2004 ¹² Grossberg, 2000 ¹¹	Project TrEAT	Yes	Unclear / NR	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Good	No	No	NR	Yes	Fair	12 month follow up) was 33.7% (51/151) in the intervention group and 22.4% (35/156) in the control group. The analysis was modified ITT because it did not include the "unrandomized" subjects. Authors used multiple imputation procedure to address attrition.
Fleming, 1999 ¹³ Mundt, 2005 ¹⁴	Guiding Older Adult Lifestyle (GOAL)	Unclear / NR	Unclear / NR	Yes	Unclear / NR	Yes	Yes	No	No	No	Yes	Fair	Yes	No	Yes	Yes	Fair	patients and clinicians were masked to the control group, not intervention group
Fleming,	Healthy	Yes	Unclear	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Good	NR	NR	NR	NR		Partial masking

Author Year	Trial name	Was randomi- zation adequat e?	Was allocati- on adequat e?	Were group similar at baseline?	Were outco- me assess- ed?	Were care provid- ed?	Were patients masked?	Was overall attrition ≥20%?	Was differ- ential attrition ≥15%?	Did the study use ITT analysis?	Were outco- me measu- res equal, valid and reliabl e?	EFFICACY EFFECTIV ENESS QUALITY RATING	Were harms prespe- cified and defined?	Were techniqu es for harms adequat ely describe d?	Were techniqu es for harms equal, valid and reliable?	Was the duration of follow- up adequat e for harms assess- ment?	HARMS ASSESS MENT QUALIT Y RATING	Notes; explain poor ratings
2008 ¹⁵ Wilton, 2009 ¹⁶	Moms		/ NR															as with other Fleming studies (but perhaps as much as possible with this type of behavioral intervention)
Fleming, 2010 ¹⁷	CHIPs	Yes	Unclear / NR	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Good	NR	NR	NR	NR		they describe a number of methodologic strengths related to masking; it is not completely clear whether allocation concealment was adequate for researchers involved in assigning subjects to groups, although it is adequate for providers and patients
Kypri, 2004 ¹⁸	NA	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes	Fair	NR	NR	NR	NR		*similar to 1568_Kypri article. * fair because did not report baseline values for outcomes
Kypri, 2008 ²⁰	NA	Yes	Yes	Yes	Yes	Unclear / NR	Yes	No	No	No	Yes	Good	NR	NR	NR	NR		1st assessor's comments:

Author Year	Trial name	Was randomi zation adequat e?	Was on conceal ment adequat e?	Were group s r at ne?	Were outco me asses d?	Were care provid mask d?	Were patien mask ed?	Was overa ll on ? ≥20% ?	Was differe ntial attritio n ≥15% ?	Did the study use ITT analys es?	Were outco me res equal, / valid and reliabl e?	EFFICACY EFFECTIV ENESS QUALITY RATING	Were harms prespe cified and defined ?	Were ascertai nment adequat ely describe d?	Were ascertai nment equal, valid and reliable ?	Was the duration of follow- up adequat e for harms assess ment?	HARMS ASSESS MENT QUALIT Y RATING	Notes; explain poor ratings
Kypri, 2007 ¹⁹																		* those who did not complete 12 mo follow-up had lower baseline AUDIT scores than those who did complete follow up (tended to drink less than those who completed follow up) * did not include analysis of G4 control group in this article * did not report overall ANOVA results - only reported statistically significant pairwise differences for G1 vs G3 and G2 vs G3.
Lin, 2010 ²² Moore, 2010 ²¹	HLAYA	Yes	Yes	Yes	Yes	No	No	No	Yes	Modified ITT	Yes	Fair	NR	NR	NR	NR		don't know if CARET has population norms - has been validated and shown to be reliable? If so, the answer Yes

Author Year	Trial name	Was randomi- zation adequat e?	Was allocati- on conceal- ment adequat e?	Were group similar at baseline?	Were outco- me assess- ments adequat e?	Were care providers masked?	Were patients masked?	Was overall attrition ≥20%?	Was differen- ce in attrition ≥15%?	Did the study use ITT analysis?	Were outco- me measu- res equal, valid and reliabl e?	EFFICACY EFFECTIV NESS QUALITY RATING	Were harms prespe- cified and defined?	Were techniqu es for harms adequat ely describe d?	Were techniqu es for harms equal, valid and reliable?	Was the duration of follow- up adequat e for harms assess- ment?	HARMS ASSESS MENT QUALIT Y RATING	Notes; explain poor ratings
Richmond, NA 1995 ³¹		Yes	Unclear / NR	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Fair	NR	NR	NR	NR		drinks/wk (18.9 for intervention and 16.6 for usual care, P = 0.01); the higher attrition for the 48 month study could be considered a fatal flaw (between 35 and 40% attrition)
Rubio, 2010 ³²	NA	Yes	Unclear / NR	Yes	Yes	No	Unclear / NR	No	No	Yes	Yes	Fair	NR	NR	NR	NR		ITT used only for 1 of the outcomes
Saitz, 2003 ³³	Screeni- ng and Interven- tion in Primary Care (SIP)	Yes	Yes	Yes	No	No	No	No	No	No	Yes	Fair						
Schaus, 2009 ³⁴	NA	Yes	Yes	Yes	No	No	No	Yes	No	No	Yes	Fair	NR	NR	NR	NR		
Scott, 1990 ³⁵	NA	No	No	Yes	Yes	No	No	Yes	No	Yes	Yes	Fair	Mixed	No	Mixed	Yes	Fair	
Senft, 1997 ³⁶ Freeborn, 2000 ³⁷		Unclear NR	Unclear / NR	Yes	Yes	Unclear / NR	No	No	Unclear / NR	Yes	Yes	Fair						Russ

Author Year	Trial name	Was randomi zation adequat e?	Was on conceal ment adequat e?	Were group s r at ne?	Were outco me asses d?	Were care provid mask mask ed?	Were II patien mask mask ed?	Was overa Was on at ritio es?	Did the study use ITT analys	Were outco me measu res equal, / valid and ENESS QUALITY RATING	Were harm s defined ?	Were ascertai nment adequat ely describe d?	Were ascertai nment adequat equal, valid and reliable?	Was the duration of follow- up adequat e for harm s assess ment?	HARMS ASSESS MENT QUALIT Y RATING	Notes; explain poor ratings	
Wallace, 1998 ³⁸	NA	Unclear / NR	Unclear / NR	Yes	Yes	No	No	No	Unclear / NR	Modified ITT	Yes	Fair	Yes	No	No	Yes	Fair

Table D-3. KQ 2 SR Quality

Table 2. GRADE Quality							Outcomes		Comments
Identifiers	Study Description					Number of studies of included	Total number of patients	Main results	Comments
Author, Year	Trial or Research Group Name	Funding source	Aim(s) of Review	Inclusion criteria	Exclusion criteria				
Kaner, 2007 ³⁹	Cochrane Review	Government	to assess effectiveness of brief intervention in primary care setting to reduce alcohol consumption, also to assess if difference in outcomes for trials conducted in research setting versus routine practice setting	*RCTs including cluster RCTs * patients presenting to PC not specifically for alcohol treatment whose drinking is identified as excessive or harmful *brief intervention up to 4 sessions versus comparator (usual care or extended intervention)	excluded trials with referrals for specialist care	29 total trials (24 general practice, 5 ED) . 22 or 25 studies included in meta-analysis (unclear: search strategy in Figure 1 different from abstract)	7619	*BI group had lower alcohol consumption at follow up of one year or more versus usual care: mean difference -38 g/week, (CI: -54,-23). heterogeneity (I2=57%) - about 4-5 drinks/week. *BI in men: -57 g/week (CI: -89,-25). I2=56% for subgroup of 6 or 8 studies, n=2307 *BI in women: -10 g/week (CI: -48, 29). I2=45% *no difference in longer treatment exposure or trials that were less clinically representative *no difference in efficacy vs effectiveness trials *extended intervention trended towards a reduction but was non-	*extended intervention defined as one that is unlikely to occur in primary care due to length or intensity *effect of BI clear in men at one year, but not in women *longer duration of counselling likely has little additional effect *unclear if inclusion criteria included those with dependency - included trials usually attempted to exclude dependents but some did not report exclusion criteria *substantial heterogeneity among trials in settings (PC vs

Identifiers		Study Description					Outcomes		Comments
Author, Year	Trial or Research Group Name	Funding source	Aim(s) of Review	Inclusion criteria	Exclusion criteria	Number of studies of included	Total number of patients	Main results	Comments
								significant: -28 g/week ED), populations, (CI:-62,6)	screening instrument, baseline consumption, intervention reported this information (mean: -0.3, CI:-0.6,0.0 binges/week)
								*no difference in frequency of binge drinking for BI vs control for 3 trials that reported this information (mean: -0.3, CI:-0.6,0.0 binges/week)	
								*no difference in number of drinking days/week for BI vs control for 3 trials (mean: -0.04, CI:-0.5, 0.4 drinking days/week)	
								*no difference in intensity of drinking for BI vs control for 5 trials (mean: -3.1, CI: -8.8, 2.6 grams/drinking day)	
								*no difference in GGT for BI vs controls for 3 trials (mean:-1.1, CI: -3.9, 1.7 IU/L)	
								*heavy drinkers reported in 9 trials, not in meta-analysis because of different	

Identifiers		Study Description					Outcomes		Comments
Author, Year	Trial or Research Group Name	Funding source	Aim(s) of Review	Inclusion criteria	Exclusion criteria	Number of studies of included	Total number of patients	Main results	Comments
								<p>definitions among trials of heavy drinking</p> <p>*4 trials reported % of binge drinkers, overall reduction in % of binge drinkers in BI vs control group (RD: -11%, CI: -19, -3%)</p> <p>Adverse effects:</p> <p>*Crawford 2004: reported 0.5 fewer ED visits for BI group vs control during year after randomization</p> <p>*Gentilelo 1999: reported 47% reduction in new injuries requiring ED or trauma readmission for BI vs control, but no difference in death rate</p> <p>*Longabaugh 2001: reported those in extended intervention group had fewer Drinker Inventory of Consequences scores</p>	

Identifiers		Study Description					Outcomes		Comments
Author, Year	Trial or Research Group Name	Funding source	Aim(s) of Review	Inclusion criteria	Exclusion criteria	Number of studies of included	Total number of patients	Main results	Comments
								at one year vs controls *Romelsjo 1989: reported no difference in 'alcohol problem index' for BI vs controls HRQoL: Crawford 2004: no difference in GHQ/EQ-5D scores at 12 months Lock 2006: no difference in DPI, SF- 12 scores at 12 months Cost: Lock 2006: no difference in total healthcare cost including delivery cost for BI vs control	

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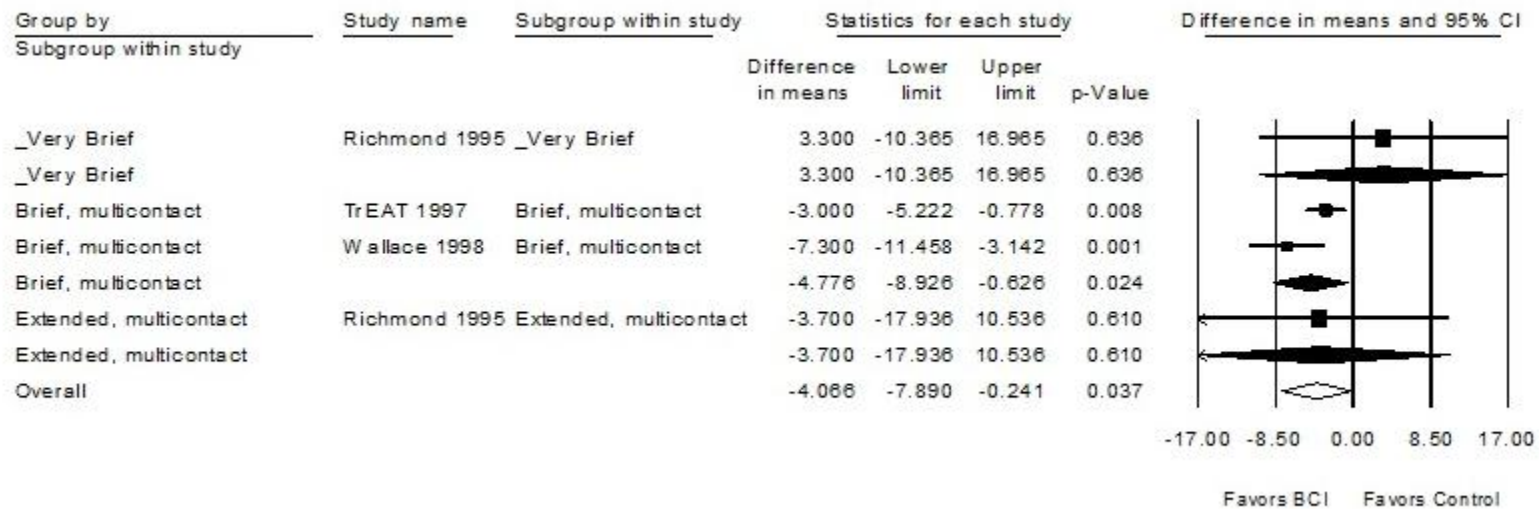
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Appendix E. Meta-analysis results

Change in drinks/week

Drinks/week BI vs. control: adult men, 6 months

Comparison of Behavioral Counseling Interventions vs. Control in Adult Men: 6 Month Change in Alcohol Consumption (drinks/week)



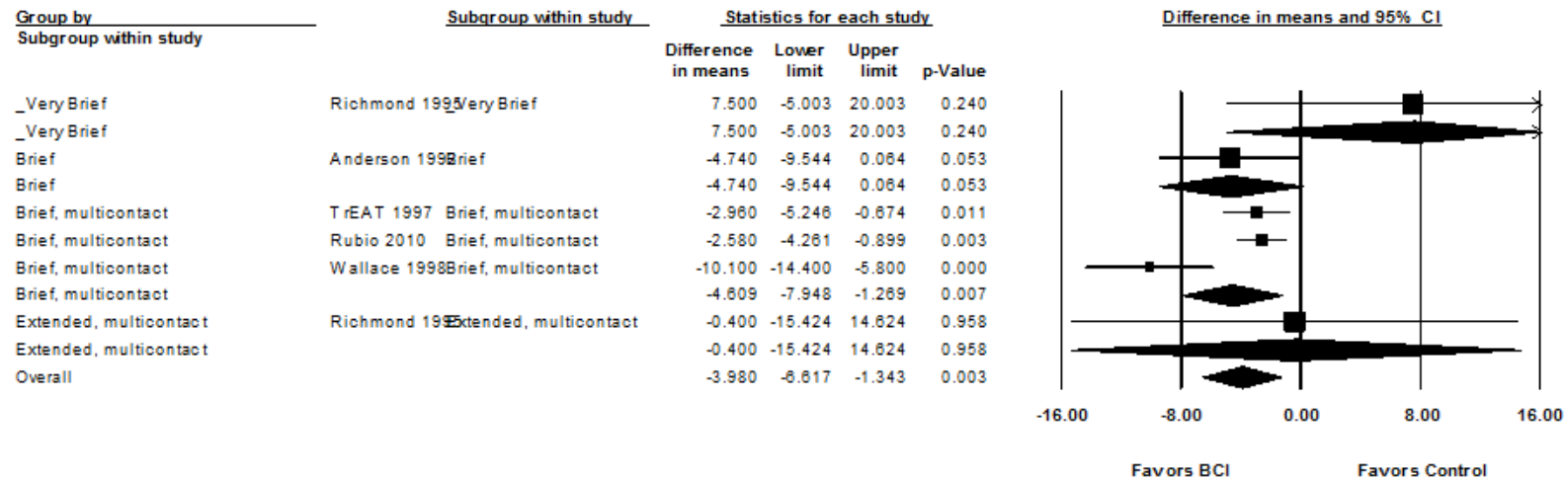
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
_Very Brief	0.000	0	1.000	0.000
Brief, multicontact	3.195	1	0.074	68.703
Extended, multicontact	0.000	0	1.000	0.000
Overall	4.256	3	0.235	29.519

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	0.000	0.000	0.000	1.000
			3.300	-10.365	16.965	0.636
			-7.300	-12.837	-1.763	0.010
Random	Wallace 1998	Brief, multicontact	-3.000	-5.222	-0.778	0.008
			-4.776	-8.926	-0.626	0.024
			-3.700	-17.936	10.536	0.610
Random	Richmond 1995	Extended, multicontact	-3.700	-17.936	10.536	0.610
Random	Overall		-4.066	-7.890	-0.241	0.037

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	-4.538	-7.752	-1.325	0.006
	Richmond 1995	Extended, multicontact	-4.173	-8.077	-0.270	0.036
	TrEAT 1997	Brief, multicontact	-5.652	-10.517	-0.786	0.023
	Wallace 1998	Brief, multicontact	-2.858	-5.026	-0.690	0.010
			-4.150	-7.253	-1.046	0.009

Drinks/week BI vs. control: adult men, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Adult Men: 12 Month Change in Alcohol Consumption (drinks/week)



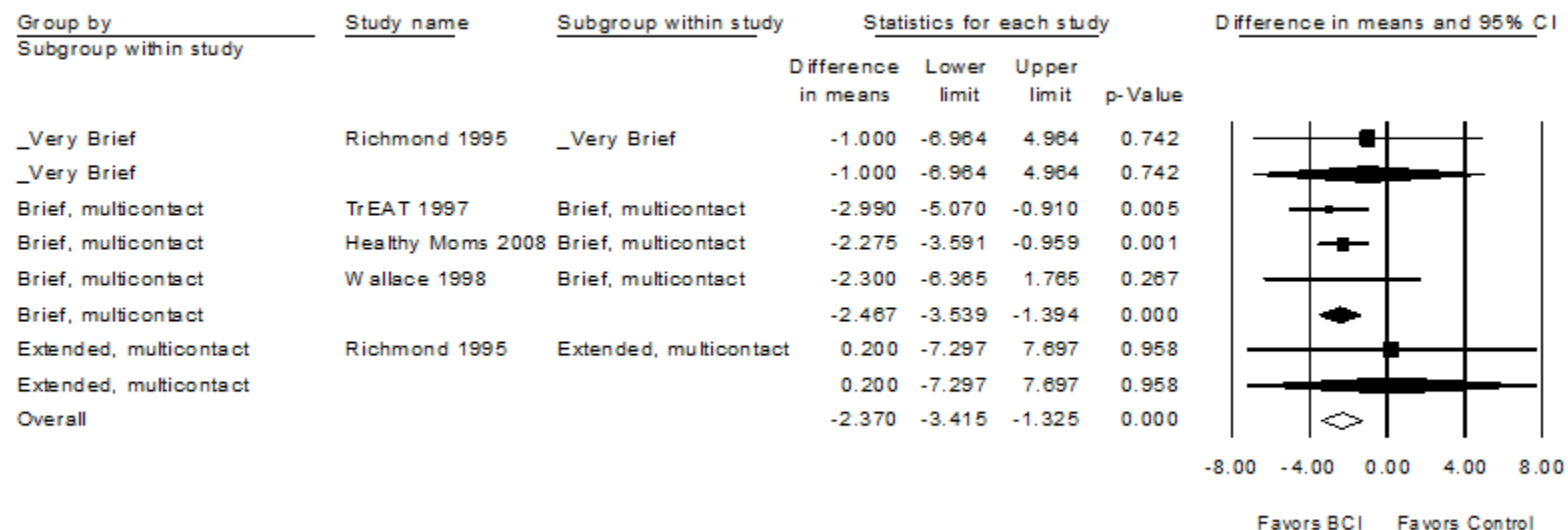
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
_Very Brief	0.000	0	1.000	0.000
Brief	0.000	0	1.000	0.000
Brief, multicontact	10.380	2	0.006	80.732
Extended, multicontact	0.000	0	1.000	0.000
Overall	13.745	5	0.017	63.622

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	0.000	0.000	0.000	1.000
			7.500	-5.003	20.003	0.240
Random	Anderson 1992	Brief	-4.740	-11.112	1.632	0.145
			-4.740	-9.544	0.064	0.053
	TrEAT 1997	Brief, multicontact	-5.878	-11.482	-0.274	0.040
			-6.146	-11.663	-0.628	0.029
	Rubio 2010	Brief, multicontact	-6.146	-11.663	-0.628	0.029
			-2.713	-4.067	-1.359	0.000
Random	Wallace 1998	Brief, multicontact	-2.713	-4.067	-1.359	0.000
			-4.609	-7.948	-1.269	0.007
Random	Richmond 1995	Extended, multicontact	-0.400	-15.424	14.624	0.958
			-0.400	-15.424	14.624	0.958
Random	Overall		-3.980	-6.617	-1.343	0.003

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	-4.383	-6.968	-1.798	0.001
	Richmond 1995	Extended, multicontact	-4.057	-6.942	-1.173	0.006
	Anderson 1992	Brief	-3.759	-7.015	-0.503	0.024
	TrEAT 1997	Brief, multicontact	-4.032	-8.362	0.298	0.068
	Rubio 2010	Brief, multicontact	-4.214	-8.475	0.048	0.053
	Wallace 1998	Brief, multicontact	-2.734	-4.025	-1.442	0.000
			-3.945	-6.679	-1.211	0.005

Drinks/week BI vs. control: adult women, 6 months

Comparison of Behavioral Counseling Interventions vs. Control in Adult Women: 6 Month Change in Alcohol Consumption



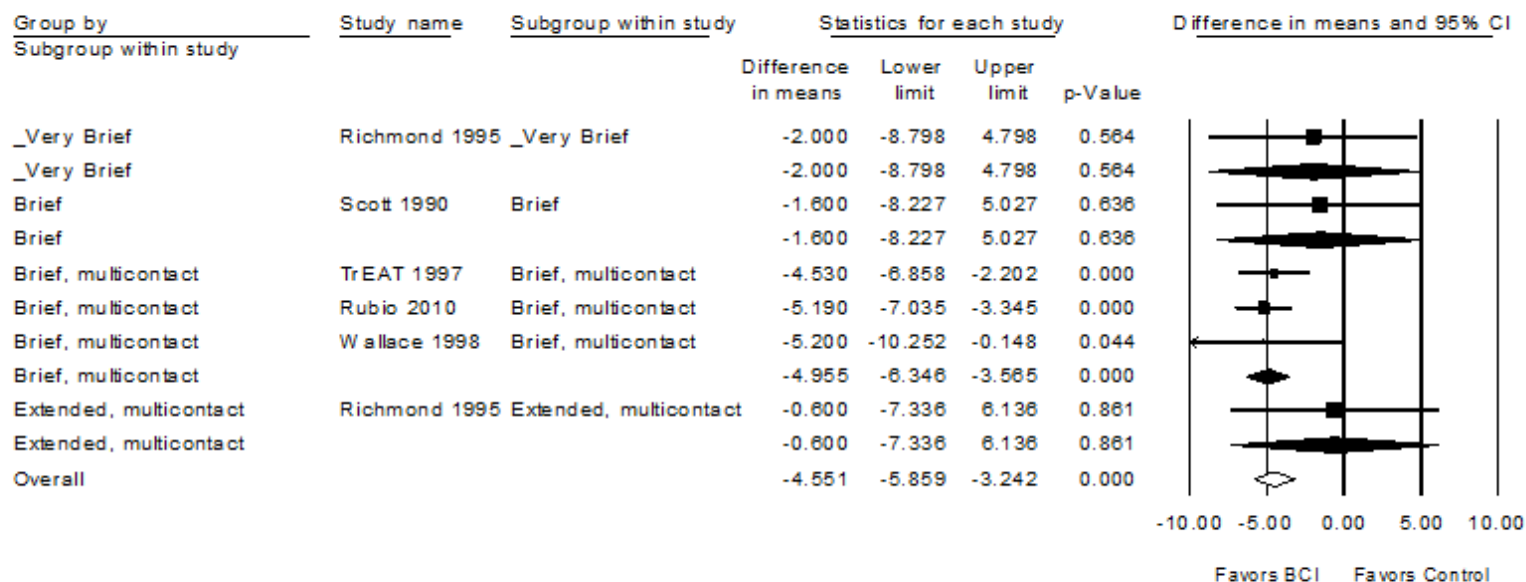
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Intensity	Q-value	df (Q)	P-value	I-squared
_Very Brief	0.000	0	1.000	0.000
Brief, multicontact	0.331	2	0.847	0.000
Extended, multicontact	0.000	0	1.000	0.000
Overall	1.017	4	0.907	0.000

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	0.000	0.000	0.000	1
			-1.000	-6.964	4.964	0.742434
	TrEAT 1997	Brief, multicontact	-2.277	-3.529	-1.026	3.62E-04
	Healthy Moms 2008	Brief, multicontact	-2.847	-4.698	-0.995	2.58E-03
Random	Wallace 1998	Brief, multicontact	-2.479	-3.591	-1.368	1.24E-05
			-2.467	-3.539	-1.394	6.53E-06
	Richmond 1995	Extended, multicontact	0.200	-7.297	7.697	0.958301
Random			0.200	-7.297	7.697	0.958301
Random			-2.370	-3.415	-1.325	8.82E-06

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	-2.413	-3.475	-1.352	0.000
	Richmond 1995	Extended, multicontact	-2.421	-3.476	-1.365	0.000
	TrEAT 1997	Brief, multicontact	-2.160	-3.369	-0.952	0.000
	Healthy Moms 2008	Brief, multicontact	-2.533	-4.254	-0.811	0.004
	Wallace 1998	Brief, multicontact	-2.375	-3.456	-1.293	0.000
			-2.370	-3.415	-1.325	0.000

Drinks/week BI vs. control: adult women, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Adult Women: 12 Month Change in Alcohol Consumption (drinks/week)



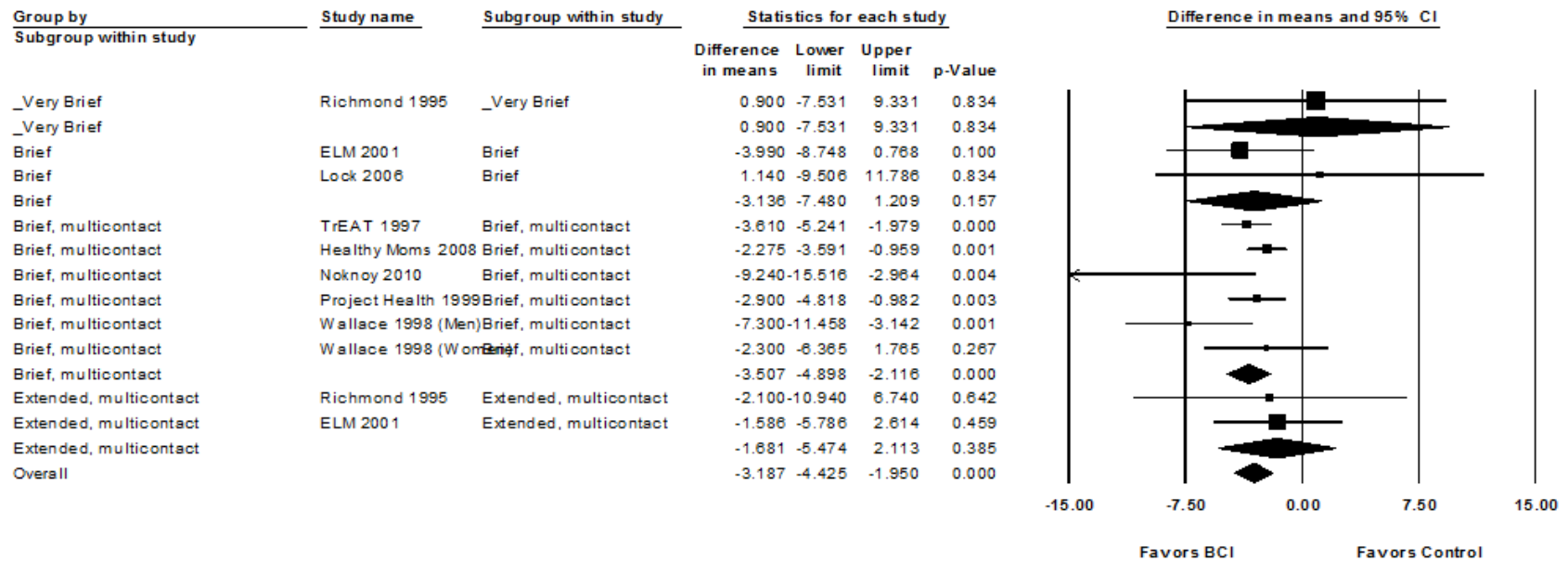
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
_Very Brief	0.000	0	1.000	0.000
Brief	0.000	0	1.000	0.000
Brief, multicontact	0.199	2	0.905	0.000
Extended, multicontact	0.000	0	1.000	0.000
Overall	3.149	2	0.677	0.000

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	0.000	0.000	0.000	1.000
			-2.000	-8.798	4.798	0.564
Random	Scott 1990	Brief	-1.600	-8.227	5.027	0.636
			-1.600	-8.227	5.027	0.636
	TrEAT 1997	Brief, multicontact	-5.191	-6.924	-3.458	0.000
	Rubio 2010	Brief, multicontact	-4.647	-6.762	-2.533	0.000
Random	Wallace 1998	Brief, multicontact	-4.935	-6.381	-3.489	0.000
			-4.955	-6.346	-3.565	0.000
Random	Richmond 1995	Extended, multicontact	-0.600	-7.336	6.136	0.861
Random			-0.600	-7.336	6.136	0.861
Random	Overall		-4.551	-5.859	-3.242	0.000

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	-4.649	-5.982	-3.315	0.000
	Richmond 1995	Extended, multicontact	-4.706	-6.040	-3.371	0.000
	Scott 1990	Brief	-4.670	-6.005	-3.335	0.000
	TrEAT 1997	Brief, multicontact	-4.560	-6.143	-2.978	0.000
	Rubio 2010	Brief, multicontact	-3.903	-5.760	-2.047	0.000
	Wallace 1998	Brief, multicontact	-4.504	-5.859	-3.149	0.000
			-4.551	-5.859	-3.242	0.000

Drinks/week BI vs. control: adults, 6 months

Comparison of Behavioral Counseling Interventions v.s. Control in Adults: 6 Month Change in Alcohol Consumption (drinks/week)



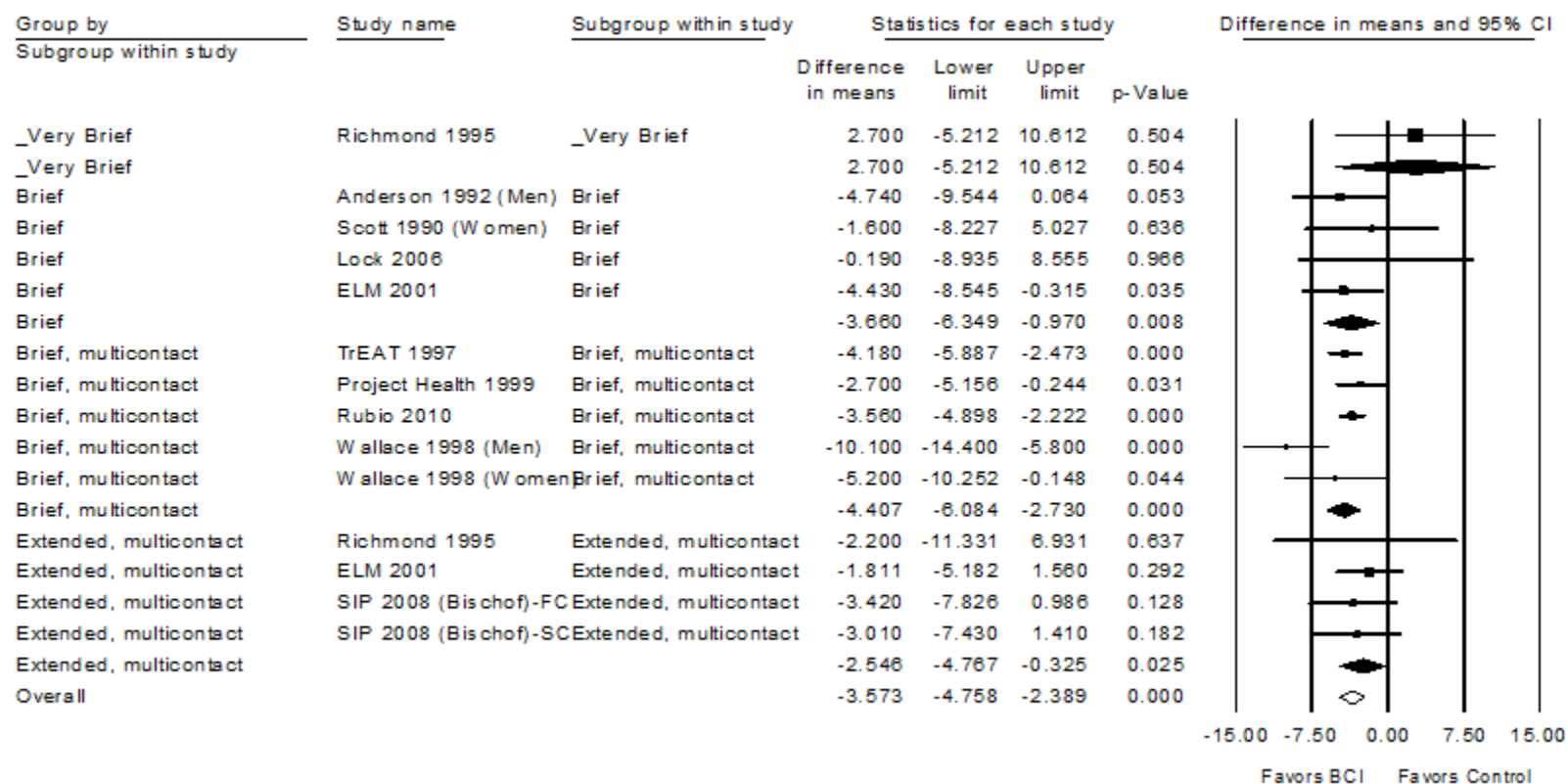
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
_Very Brief	0.000	0	1.000	0.000
Brief	0.000	0	1.000	0.000
Brief, multicontact	9.672	5	0.085	48.305
Extended, multicontact	0.000	0	1.000	0.000
Overall	11.171	8	0.192	28.385

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	0.000	0.000	0.000	1.000
			0.900	-7.531	9.331	0.834
Random	ELM 2001	Brief	1.140	-9.619	11.899	0.835
	Lock 2006	Brief	-3.990	-8.950	0.970	0.115
Random	TrEAT 1997	Brief, multicontact	-3.136	-7.480	1.209	0.157
			-3.295	-4.702	-1.887	0.000
Random	Healthy Moms 2008	Brief, multicontact	-3.812	-5.111	-2.514	0.000
	Noknoy 2010	Brief, multicontact	-2.992	-3.855	-2.129	0.000
Random	Project Health 1999	Brief, multicontact	-3.568	-4.998	-2.138	0.000
	Wallace 1998 (Men)	Brief, multicontact	-2.923	-3.796	-2.050	0.000
Random	Wallace 1998 (Women)	Brief, multicontact	-3.446	-4.673	-2.220	0.000
	Richmond 1995	Extended, multicontact	-3.507	-4.898	-2.116	0.000
			-1.586	-6.068	2.896	0.488
Random	ELM 2001	Extended, multicontact	-2.100	-11.063	6.863	0.646
Random			-1.681	-5.474	2.113	0.385
Random			-3.187	-4.425	-1.950	0.000

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	-3.181	-4.210	-2.152	0.000
	Richmond 1995	Extended, multicontact	-3.167	-4.260	-2.074	0.000
	ELM 2001	Brief	-3.109	-4.218	-2.001	0.000
	ELM 2001	Extended, multicontact	-3.235	-4.329	-2.142	0.000
	Lock 2006	Brief	-3.173	-4.219	-2.126	0.000
	TrEAT 1997	Brief, multicontact	-3.030	-4.292	-1.768	0.000
	Healthy Moms 2008	Brief, multicontact	-3.480	-4.656	-2.303	0.000
	Noknoy 2010	Brief, multicontact	-2.899	-3.721	-2.077	0.000
	Project Health 1999	Brief, multicontact	-3.245	-4.526	-1.965	0.000
	Wallace 1998 (Men)	Brief, multicontact	-2.834	-3.665	-2.003	0.000
	Wallace 1998 (Women)	Brief, multicontact	-3.211	-4.336	-2.085	0.000
	Random		-3.114	-4.119	-2.110	0.000

Drinks/week BI vs. control: adults, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Adults: 12 Month Change in Alcohol Consumption (drinks/week)

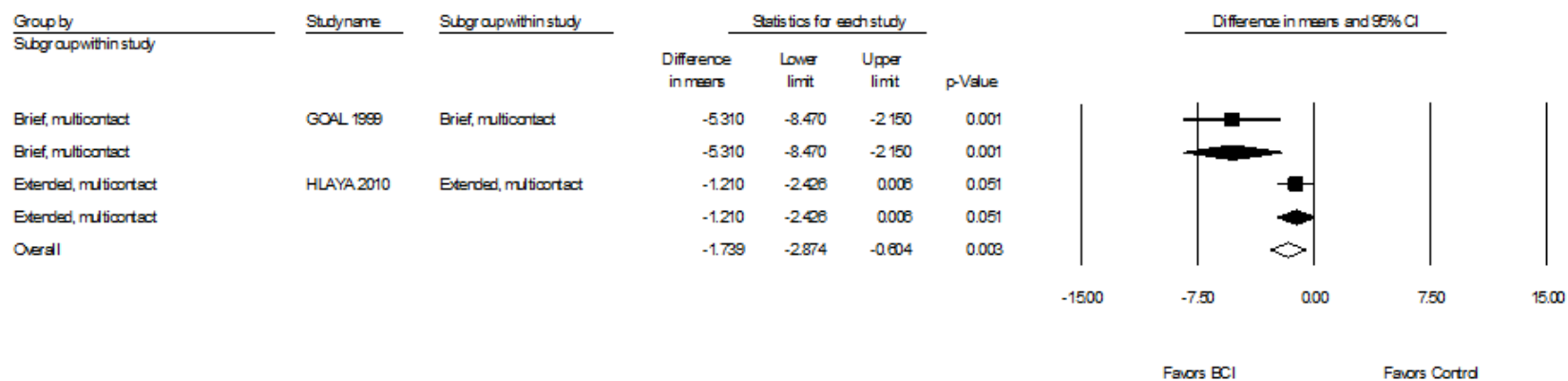


Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
_Very Brief	0.000	0	1.000	0.000
Brief	1.305	3	0.728	0.000
Brief, multicontact	9.478	4	0.050	57.797
Extended, multicontact	0.382	3	0.944	0.000
Overall	15.066	13	0.303	13.714

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	Richmond 1995	_Very Brief	0.000	0.000	0.000	1.000
			2.700	-5.212	10.612	0.504
	Anderson 1992 (Men)	Brief	-3.091	-6.508	0.325	0.076
	Scott 1990 (Women)	Brief	-4.031	-7.129	-0.932	0.011
	Lock 2006	Brief	-3.999	-6.958	-1.039	0.008
Random	ELM 2001	Brief	-3.029	-6.728	0.670	0.108
			-3.660	-6.349	-0.970	0.008
	TrEAT 1997	Brief, multicontact	-4.231	-5.818	-2.643	0.000
	Project Health 1999	Brief, multicontact	-4.510	-5.900	-3.119	0.000
	Rubio 2010	Brief, multicontact	-4.637	-6.383	-2.891	0.000
Random	Wallace 1998 (Men)	Brief, multicontact	-3.681	-4.632	-2.731	0.000
	Wallace 1998 (Women)	Brief, multicontact	-4.110	-5.402	-2.817	0.000
			-4.407	-6.084	-2.730	0.000
	Richmond 1995	Extended, multicontact	-2.595	-5.070	-0.119	0.040
	ELM 2001	Extended, multicontact	-3.103	-6.168	-0.039	0.047
Random	SIP 2008 (Bischof)-FC	Extended, multicontact	-2.269	-5.065	0.528	0.112
	SIP 2008 (Bischof)-SC	Extended, multicontact	-2.414	-5.203	0.374	0.090
			-2.546	-4.767	-0.325	0.025
Random	Overall		-3.573	-4.758	-2.389	0.000

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
	Richmond 1995	_Very Brief	-3.767	-4.637	-2.897	0.000
	Richmond 1995	Extended, multicontact	-3.708	-4.749	-2.666	0.000
	Anderson 1992 (Men)	Brief	-3.643	-4.701	-2.585	0.000
	Scott 1990 (Women)	Brief	-3.737	-4.770	-2.705	0.000
	Lock 2006	Brief	-3.735	-4.747	-2.723	0.000
	ELM 2001	Brief	-3.645	-4.717	-2.573	0.000
	ELM 2001	Extended, multicontact	-3.837	-4.848	-2.827	0.000
	TrEAT 1997	Brief, multicontact	-3.571	-4.763	-2.379	0.000
	Project Health 1999	Brief, multicontact	-3.831	-4.925	-2.736	0.000
	Rubio 2010	Brief, multicontact	-3.723	-4.988	-2.457	0.000
	Wallace 1998 (Men)	Brief, multicontact	-3.452	-4.279	-2.626	0.000
	Wallace 1998 (Women)	Brief, multicontact	-3.630	-4.675	-2.585	0.000
	SIP 2008 (Bischof)-FC	Extended, multicontact	-3.703	-4.777	-2.629	0.000
	SIP 2008 (Bischof)-SC	Extended, multicontact	-3.724	-4.793	-2.655	0.000
Random	Overall		-3.690	-4.669	-2.710	0.000

Comparison of Behavioral Counseling Interventions v.s. Control in Older Adults: 12 Month Change in Alcohol Consumption (drinks/week)



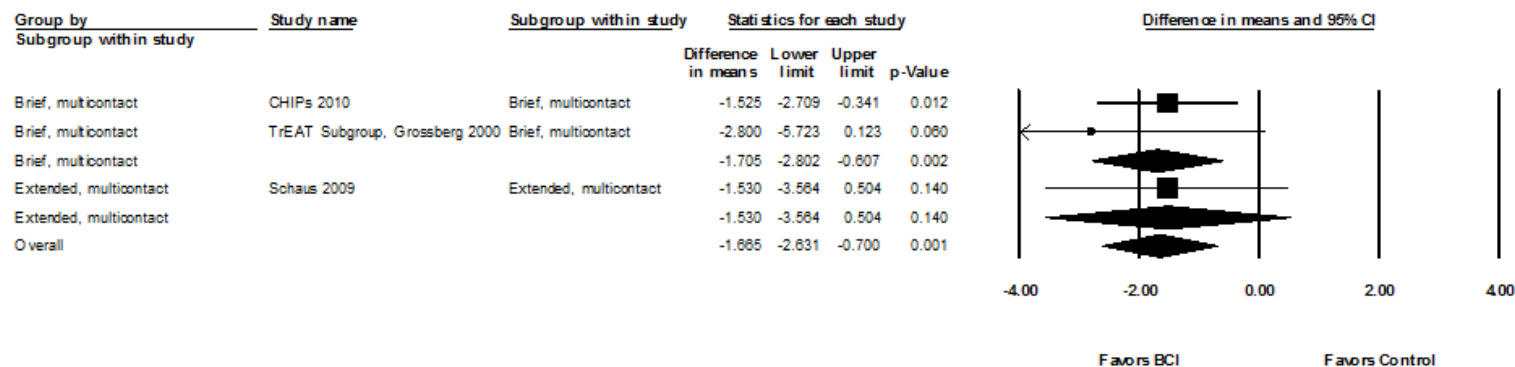
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief, multicontact	0.000	0	1.000	0.000
Extended, multicontact	0.000	0	1.000	0.000
Overall	5.631	1	0.018	82.241

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	GOAL 1999	Brief, multicontact	0.000	0.000	0.000	1.000
			-5.310	-8.470	-2.150	0.001
Random	HLAYA 2010	Extended, multicontact	-1.210	-2.426	0.006	0.051
			-1.210	-2.426	0.006	0.051
Random			-1.739	-2.874	-0.604	0.003

Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	GOAL 1999	Brief, multicontact	-1.210	-2.426	0.006	0.051
	HLAYA 2010	Extended, multicontact	-5.310	-8.470	-2.150	0.001
			-2.990	-6.973	0.993	0.141

Drinks/week BI vs. control: young adults, 6 months

Comparison of Behavioral Counseling Interventions v.s. Control in Young Adults: 6 Month Change in Alcohol Consumption (drinks/week)



Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief, multicontact	0.628	1	0.428	0.000
Extended, multicontact	0.000	0	1.000	0.000
Overall	0.650	2	0.723	0.000

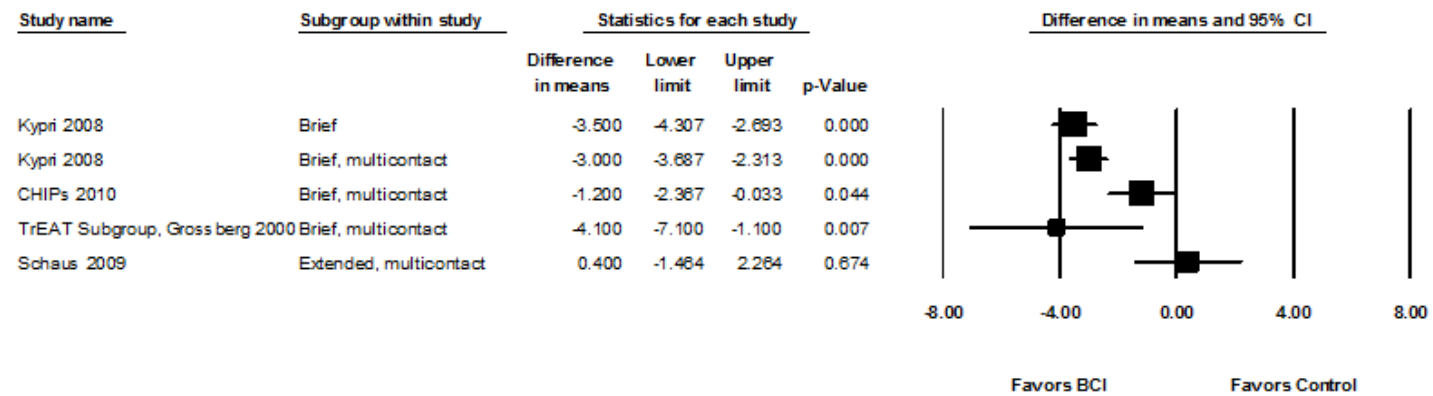
Model	Study name	Intensity	Statistics with study removed			
			WMD	Lower limit	Upper limit	p-Value
Random	CHIPs 2010	Brief, multicontact	-2.800	-5.723	0.123	0.060
	TrEAT Subgroup, Grossberg 2000	Brief, multicontact	-1.525	-2.709	-0.341	0.012
			-1.705	-2.802	-0.607	0.002
Random	Schaus 2009	Extended, multicontact	-1.530	-3.564	0.504	0.140
Random			-1.530	-3.564	0.504	0.140
Random		Overall	-1.665	-2.631	-0.700	0.001

Model	Study name	Intensity	Statistics with study	
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			removed			
			WMD	Lower limit	Upper limit	p-Value
Random	CHIPs 2010	Brief, multicontact	-1.944	-3.614	-0.275	0.022
	TrEAT Subgroup, Grossberg 2000	Brief, multicontact	-1.526	-2.549	-0.503	0.003
	Schaus 2009	Extended, multicontact	-1.705	-2.802	-0.607	0.002
			-1.665	-2.631	-0.700	0.001

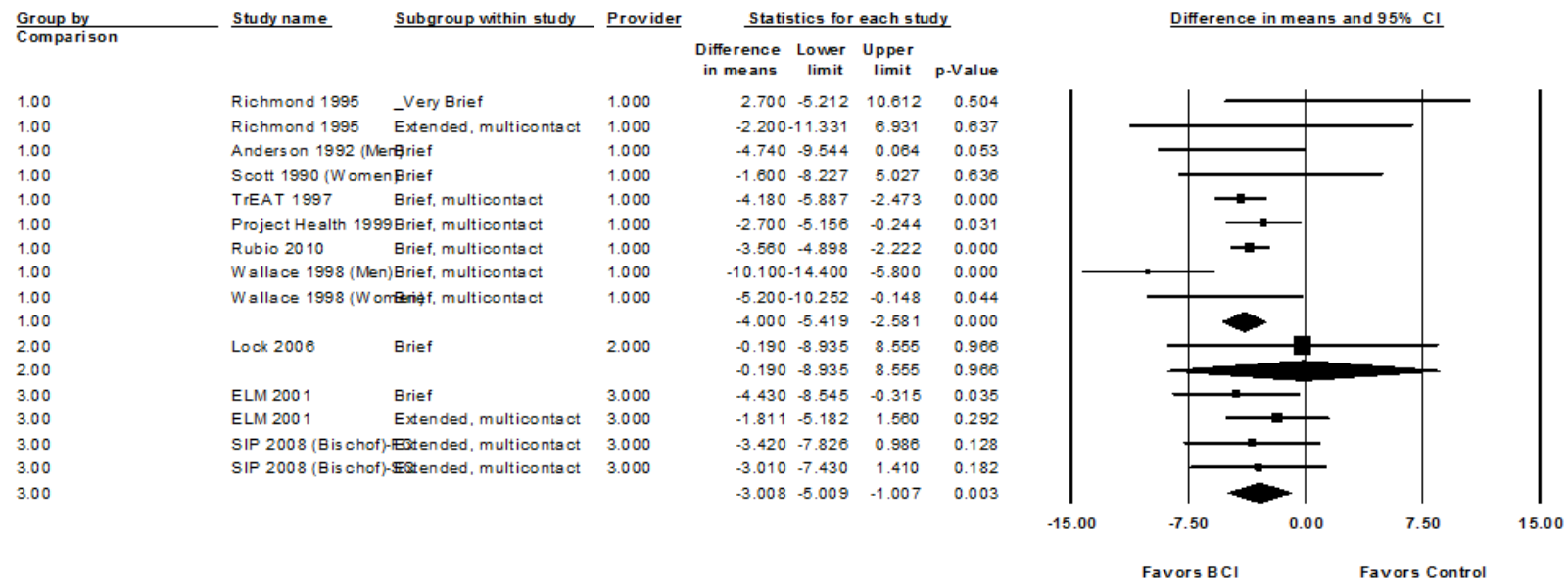
Drinks/week BI vs. control: young adults, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Young Adults: 12 Month Change in Alcohol Consumption (drinks/week)



Drinks/week BI vs. control by intervention provider: adults, 12 months

Comparison of Behavioral Counseling Interventions vs. Control, by Provider Subgroup: 12 Month Change in Alcohol Consumption (drinks/week)



Provider subtypes:

1.000 = Primary care physician

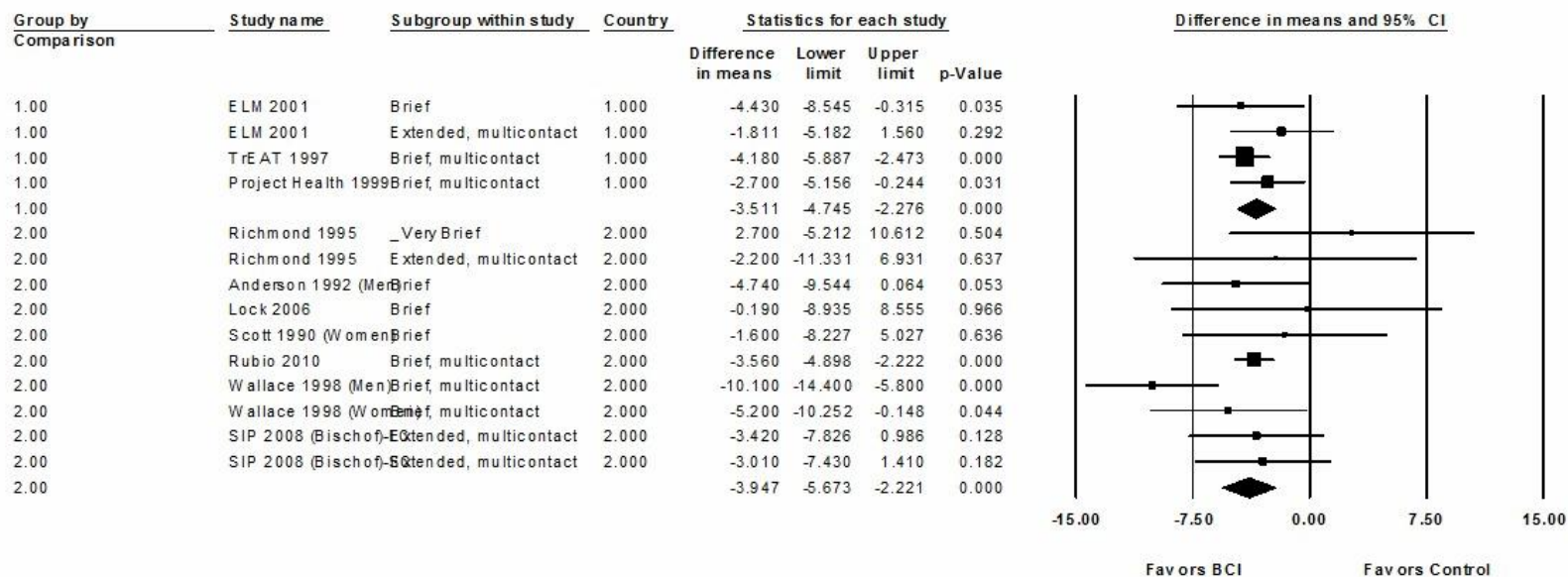
2.000 = Nurse

3.000 = Researcher

12-month Adult - Provider Subgroup				
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
PCP	12.886	8	0.116	37.918
Nurse	0.000	0	1.000	0.000
Researcher	0.977	3	0.807	0.000

Drinks/week BI vs. control by country: adults, 12 months

Comparison of Behavioral Counseling Interventions vs. Control, by Country Subgroup: 12 Month Change in Alcohol Consumption (drinks/week)



Country subtypes:

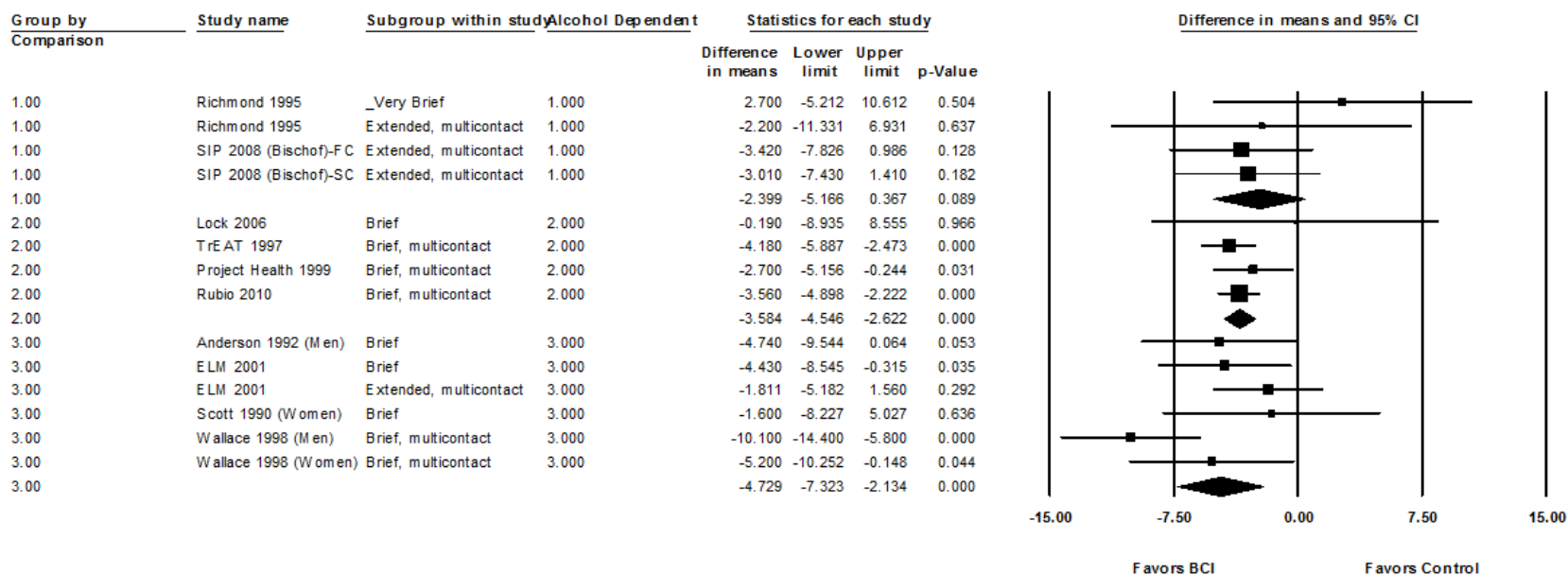
1.000 = United States only

2.000 = includes non-United States

12-month Adult - Country Subgroup				
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
US	2.177	3	0.537	0.000
Non-US	12.748	9	0.174	29.398

Drinks/week BI vs. control by alcohol dependence: adults, 12 months

Comparison of Behavioral Counseling Interventions v.s. Control, by Alcohol Dependent Subgroup: 12 Month Change in Alcohol Consumption (drinks/week)



Alcohol dependence subtypes:

1.000 = Study included dependent people

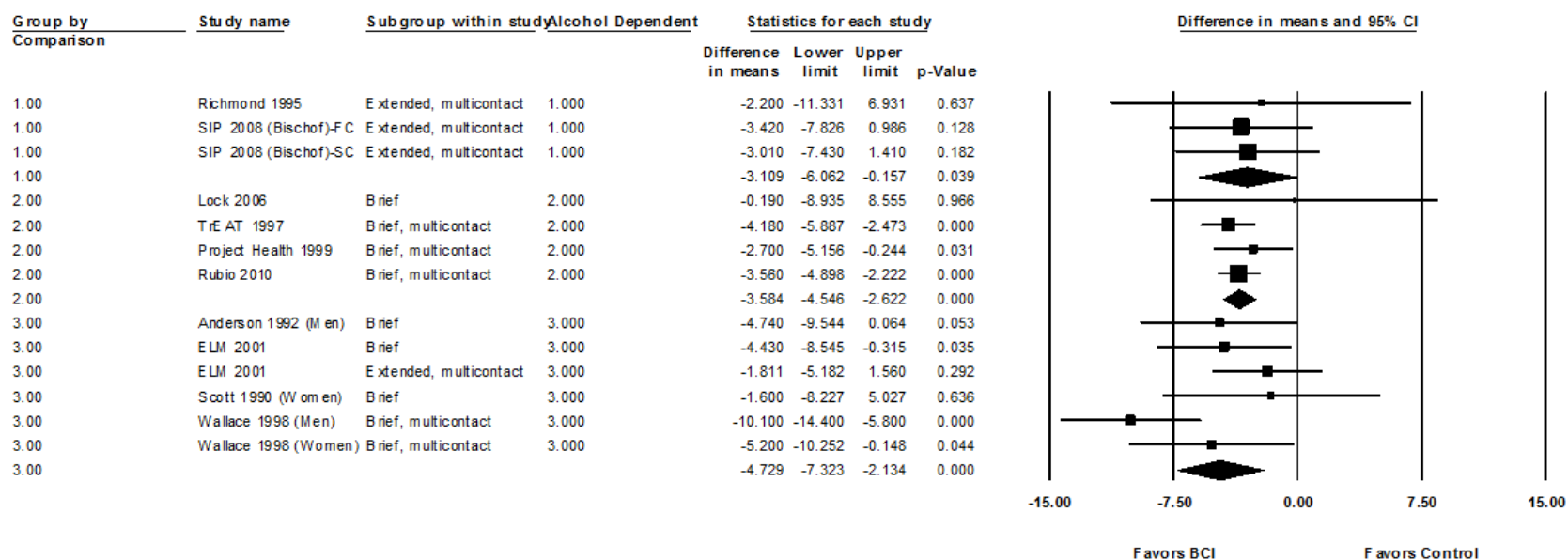
2.000 = Study did not include dependent people

3.000 = Unclear whether study included dependent people

12-month Adult - Alcohol Dependent Subgroup				
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Yes	1.877	3	0.598	0.000
No	1.546	3	0.672	0.000
NR/Unclear	9.764	5	0.082	48.790

Drinks/week BI vs. control by alcohol dependence: adults, 12 months; very brief removed

Comparison of Behavioral Counseling Interventions v.s. Control, by Alcohol Dependent Subgroup: 12 Month Change in Alcohol Consumption (drinks/week)



Alcohol dependence subtypes:

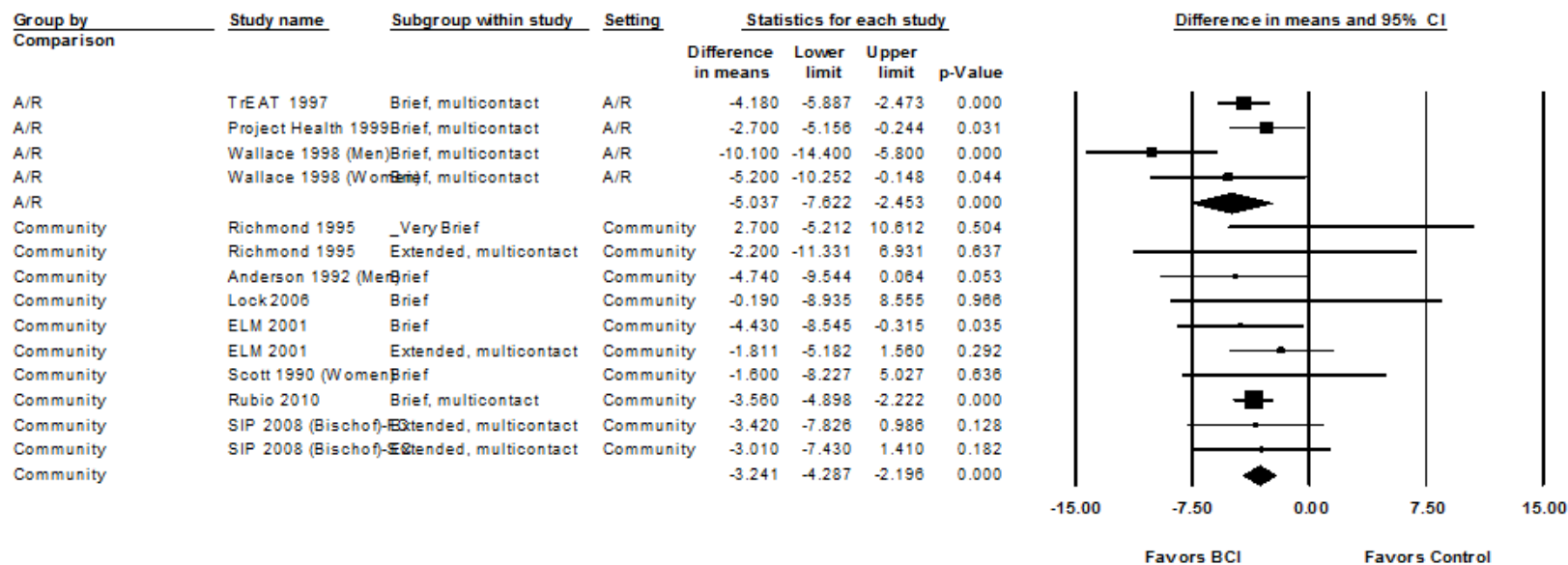
1.000 = Study included dependent people

2.000 = Study did not include dependent people

3.000 = Unclear whether study included dependent people

Drinks/week BI vs. control by practice setting: adults, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Adults, by Setting: 12 Month Change in Alcohol Consumption (drinks/week)



Practice setting subtypes:

A/R = academic or research

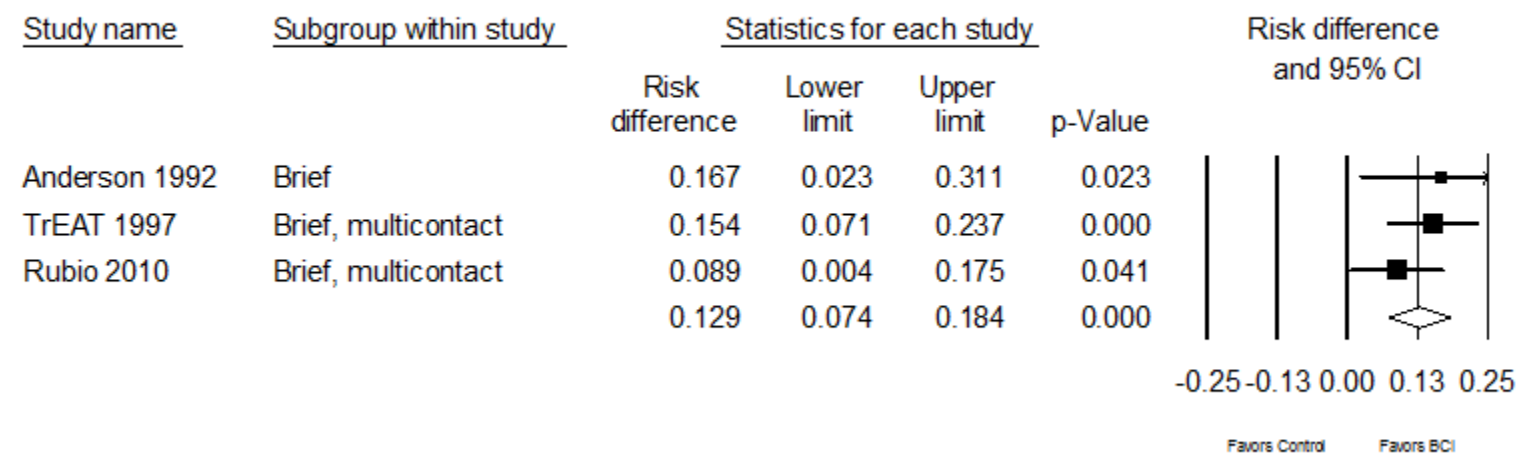
Community = private or community-based practice

12-month Adult - Setting Subgroup				
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
A/R	8.747	3	0.033	65.702
Community	4.540	9	0.872	0.000

Binge drinking

Risk of binge BI vs. control: adult men, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Adult Men: No Binge Alcohol Use at 12 Months



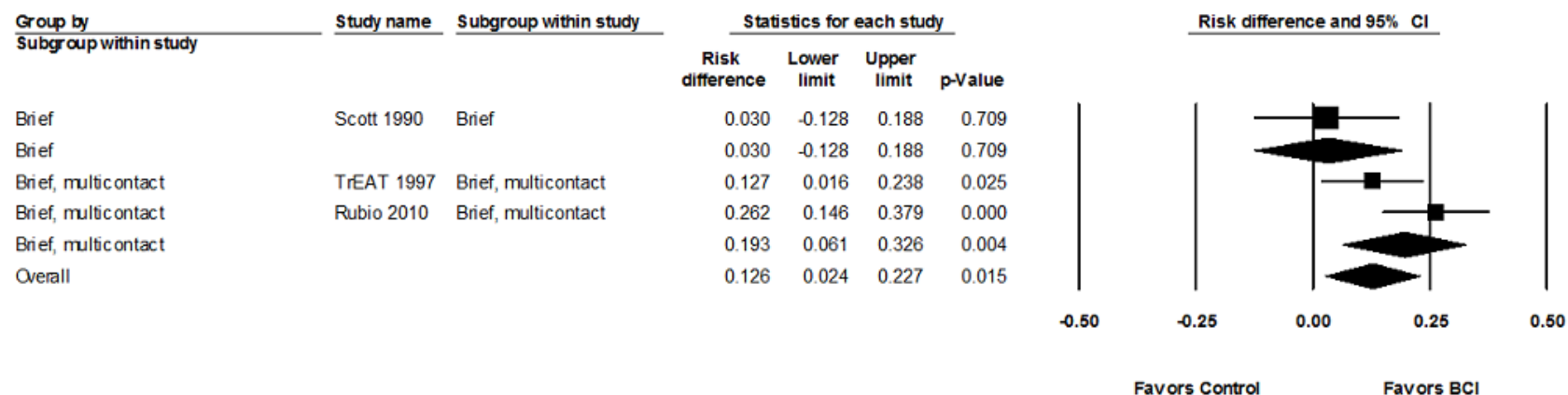
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief	0.000	0	1.000	0.000
Brief, multicontact	1.140	1	0.286	12.284
Overall	1.451	2	0.484	0.000

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	Anderson 1992	Brief	0.000	0.000	0.000	1.000
			0.167	0.023	0.311	0.023
	TrEAT 1997	Brief, multicontact	0.089	0.004	0.175	0.041
Random	Rubio 2010	Brief, multicontact	0.154	0.071	0.237	0.000
Random		Overall	0.123	0.059	0.186	0.000
			0.130	0.072	0.188	0.000

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	Anderson 1992	Brief	0.123	0.059	0.186	0.000
	TrEAT 1997	Brief, multicontact	0.109	0.036	0.183	0.004
	Rubio 2010	Brief, multicontact	0.157	0.086	0.229	0.000
			0.129	0.074	0.184	0.000

Risk of binge BI vs. control: adult women, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Adult Women: No Binge Alcohol Use at 12 Months



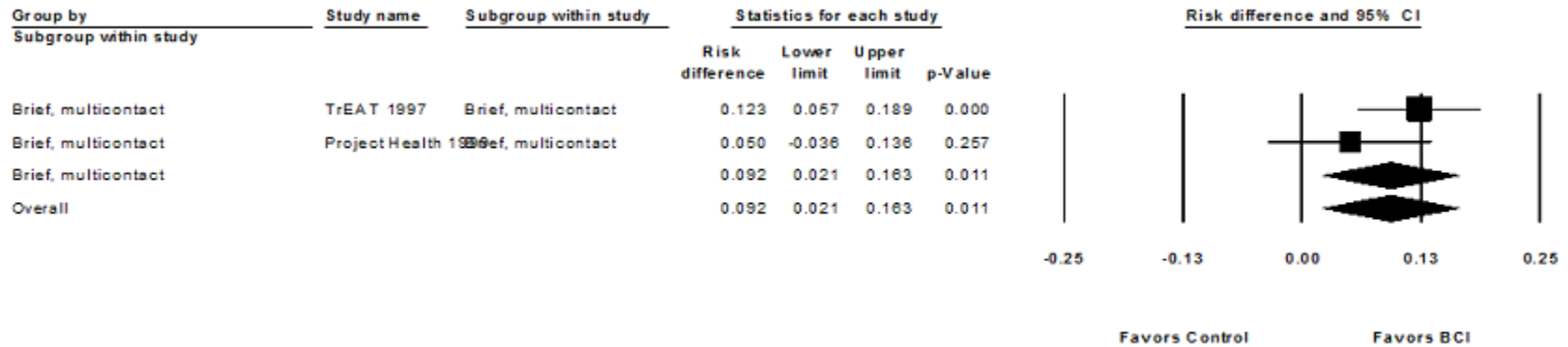
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief	0.000	0	1.000	0.000
Brief, multicontact	2.724	1	0.099	63.290
Overall	5.921	2	0.052	66.220

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	Scott 1990	Brief	0.000	0.000	0.000	1.000
			0.030	-0.128	0.188	0.709
	TrEAT 1997	Brief, multicontact	0.262	-0.051	0.576	0.101
Random	Rubio 2010	Brief, multicontact	0.127	0.016	0.238	0.025
Random			0.193	0.061	0.326	0.004
Random		Overall	0.126	0.024	0.227	0.015

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
	Scott 1990	Brief	0.193	0.061	0.326	0.004
	TrEAT 1997	Brief, multicontact	0.153	-0.075	0.380	0.189
	Rubio 2010	Brief, multicontact	0.095	0.004	0.186	0.040
Random			0.147	0.022	0.273	0.022

Risk of binge BI vs. control: adults, 6 months

Comparison of Behavioral Counseling Interventions vs. Control in Adults: No Binge Alcohol Use at 6 Months



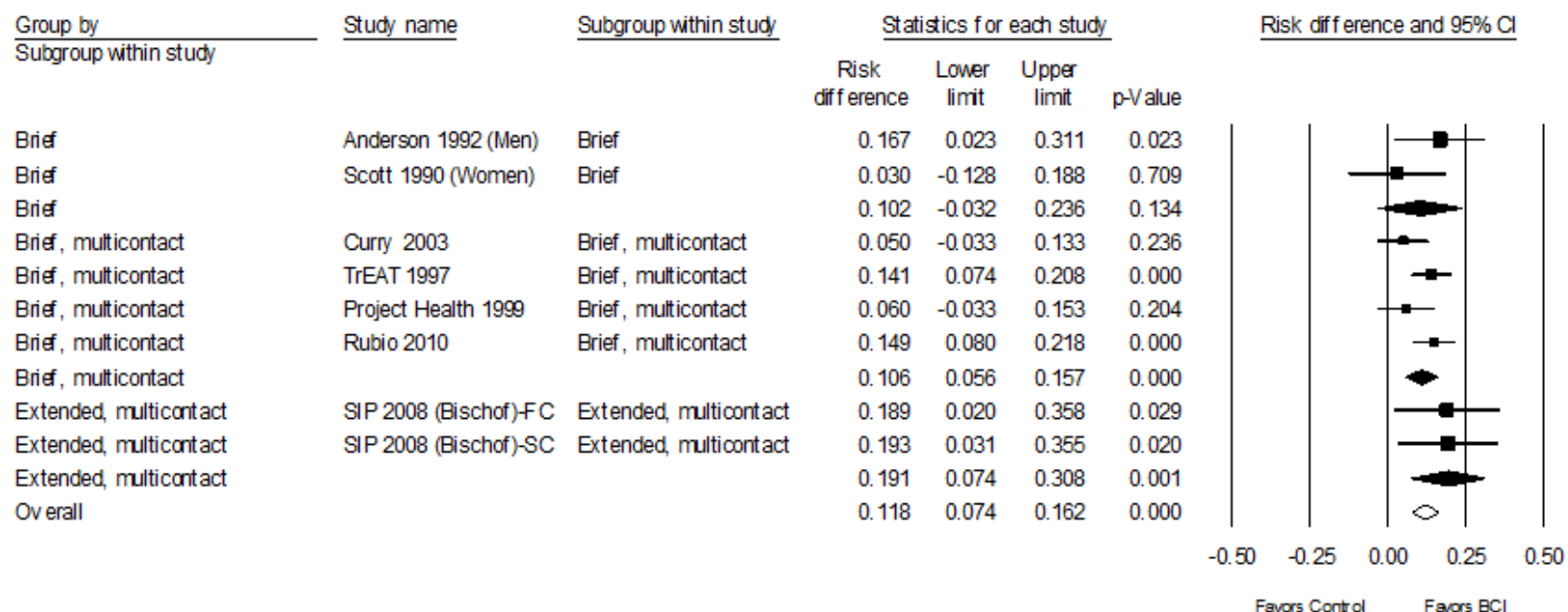
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief, multicontact	1.735	1	0.188	42.351
Overall	1.735	1	0.188	42.351

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	TrEAT 1997	Brief, multicontact	0.050	-0.036	0.136	0.257
	Project Health 1999	Brief, multicontact	0.123	0.057	0.189	0.000
			0.092	0.021	0.163	0.011
Random		Overall	0.092	0.021	0.163	0.011

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
	TrEAT 1997	Brief, multicontact	0.050	-0.036	0.136	0.257
	Project Health 1999	Brief, multicontact	0.123	0.057	0.189	0.000
Random			0.092	0.021	0.163	0.011

Risk of binge BI vs. control: adults, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Adults: No Binge Alcohol Use at 12 Months



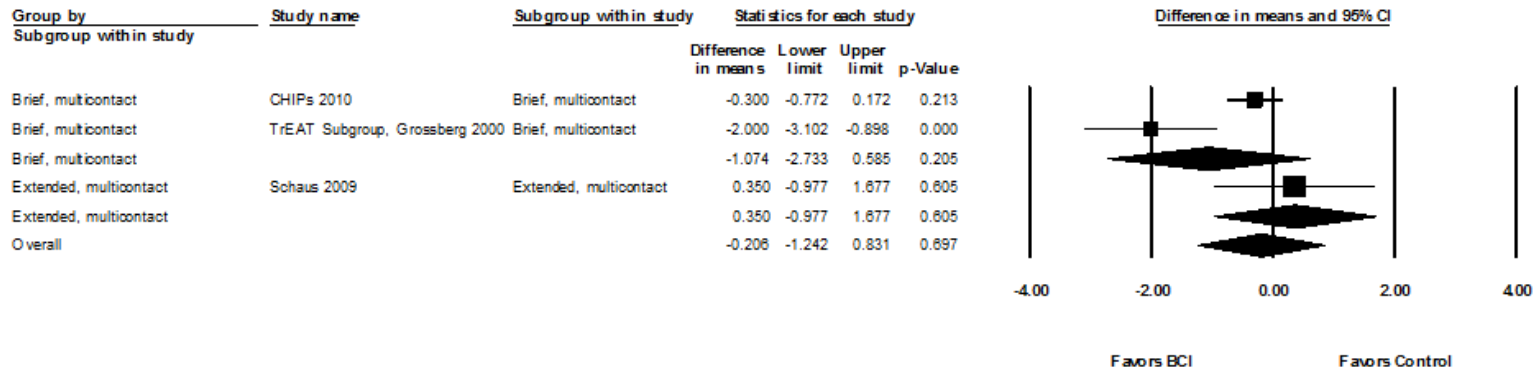
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief	1.581256	1	0.20858	36.75915
Brief, multicontact	5.183	3	0.159	42.118
Extended, multicontact	0.001	1	0.973	0.000
Overall	8.457416	7	0.293991	17.2324

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	Anderson 1992 (Men)	Brief	0.030	-0.137	0.197	0.724837
	Scott 1990 (Women)	Brief	0.167	0.017	0.317	2.96E-02
			0.102	-0.032	0.236	0.134307
	Curry 2003	Brief, multicontact	0.127	0.084	0.169	5.59E-09
	TrEAT 1997	Brief, multicontact	0.092	0.035	0.150	1.77E-03
	Project Health 1999	Brief, multicontact	0.120	0.073	0.166	5.46E-07
Random	Rubio 2010	Brief, multicontact	0.091	0.036	0.146	1.15E-03
			0.106	0.056	0.157	3.64E-05
	SIP 2008 (Bischof)-FC	Extended, multicontact	0.193	0.023	0.363	2.63E-02
Random	SIP 2008 (Bischof)-SC	Extended, multicontact	0.189	0.013	0.365	3.57E-02
Random			0.191	0.074	0.308	1.40E-03
Random		Overall	0.118	0.074	0.162	1.38E-07

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	Anderson 1992 (Men)	Brief	0.112	0.069	0.155	2.60E-07
	Scott 1990 (Women)	Brief	0.121	0.081	0.161	2.43E-09
	Curry 2003	Brief, multicontact	0.131	0.093	0.168	8.60E-12
	TrEAT 1997	Brief, multicontact	0.109	0.061	0.157	7.82E-06
	Project Health 1999	Brief, multicontact	0.126	0.085	0.166	1.20E-09
	Rubio 2010	Brief, multicontact	0.107	0.061	0.153	4.58E-06
	SIP 2008 (Bischof)-FC	Extended, multicontact	0.112	0.071	0.153	1.09E-07
	SIP 2008 (Bischof)-SC	Extended, multicontact	0.112	0.071	0.153	9.26E-08
			0.116	0.077	0.155	6.05E-09

Reduction in heavy episodic drinking BI vs. control: young adults, 12 months

Comparison of Behavioral Counseling Interventions v.s. Control in Young Adults: Reduction in Heavy Episodic Drinking at 12 Months



Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief, multicontact	7.721	1.000	0.005	87.049
Extended, multi	0.000	0.000	1.000	0.000
Overall	9.367	2.000	0.009	78.648

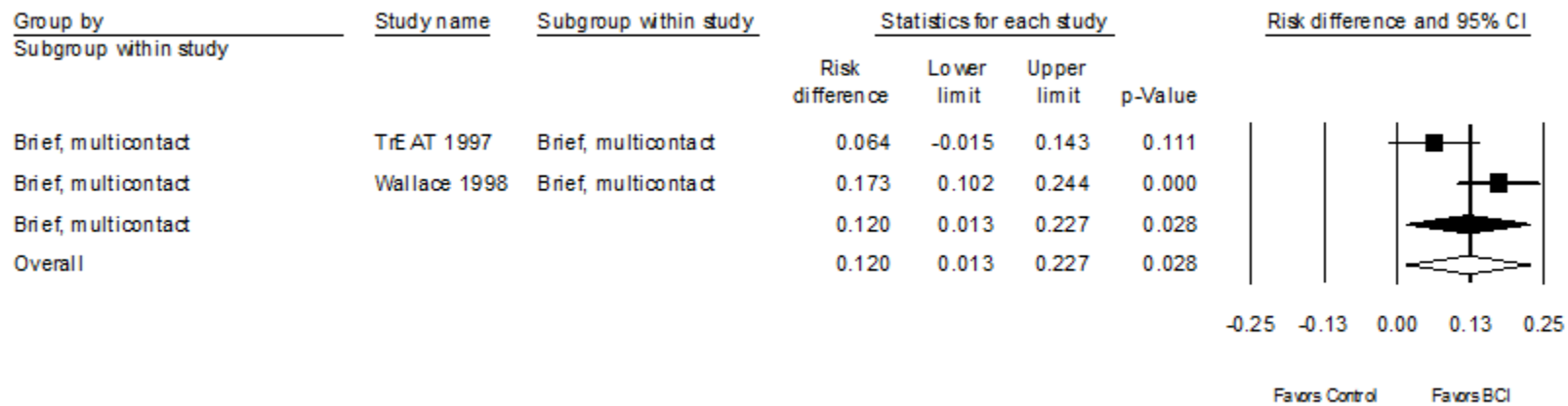
Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	CHIPs 2010	Brief, multicontact	-2.000	-5.215	1.215	0.223
	TrEAT Subgroup, Grossberg 2000	Brief, multicontact	-0.300	-0.772	0.172	0.213
			-1.074	-2.733	0.585	0.205
Random	Schaus 2009	Extended, multicontact	0.350	-0.977	1.677	0.605
Random			0.350	-0.977	1.677	0.605
Random			-0.206	-1.242	0.831	0.697

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
	CHIPs 2010	Brief, multicontact	-0.855	-3.157	1.447	0.467
	TrEAT Subgroup, Grossberg 2000	Brief, multicontact	-0.227	-0.672	0.218	0.318
	Schaus 2009	Extended, multicontact	-1.074	-2.733	0.585	0.205
Random			-0.653	-1.835	0.530	0.279

Achievement of safe / recommended drinking levels

Achieved recommended level: adult men, 6 months

Comparison of Behavioral Counseling Interventions vs. Control in Adult Men: Achieved Recommended Drinking at 6 Months



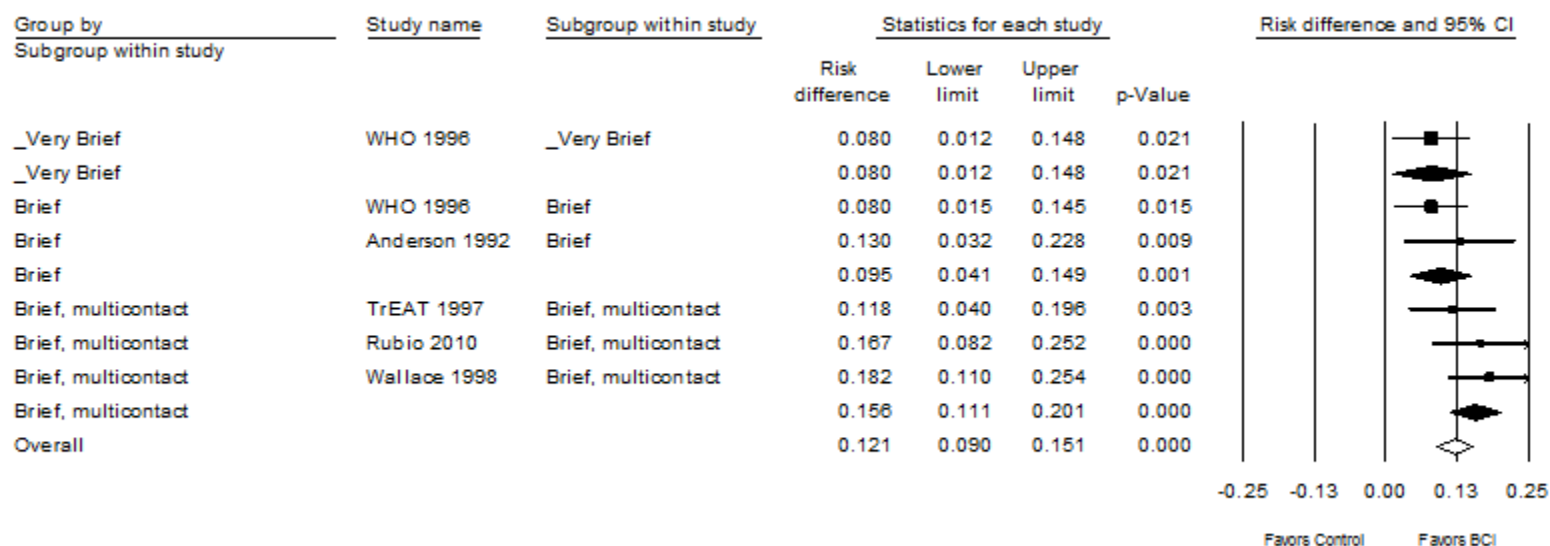
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief, multicontact	4.050	1	0.044	75.308
Overall	4.050	1	0.044	75.308

Model	Study name	Intensity	Statistics with study removed			
Random Random	TrEAT 1997 Wallace 1998	Brief, multicontact	RD	Lower limit	Upper limit	p-Value
			0.173	0.102	0.244	0.000
			0.064	-0.015	0.143	0.111
		Overall	0.120	0.013	0.227	0.028

Model	Study name	Intensity	Statistics with study removed			
Random	TrEAT 1997 Wallace 1998	Brief, multicontact	RD	Lower limit	Upper limit	p-Value
			0.173	0.102	0.244	0.000
			0.064	-0.015	0.143	0.111
			0.120	0.013	0.227	0.028

Achieved recommended level: adult men, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Adult Men: Achieved Recommended Drinking at 12 Months



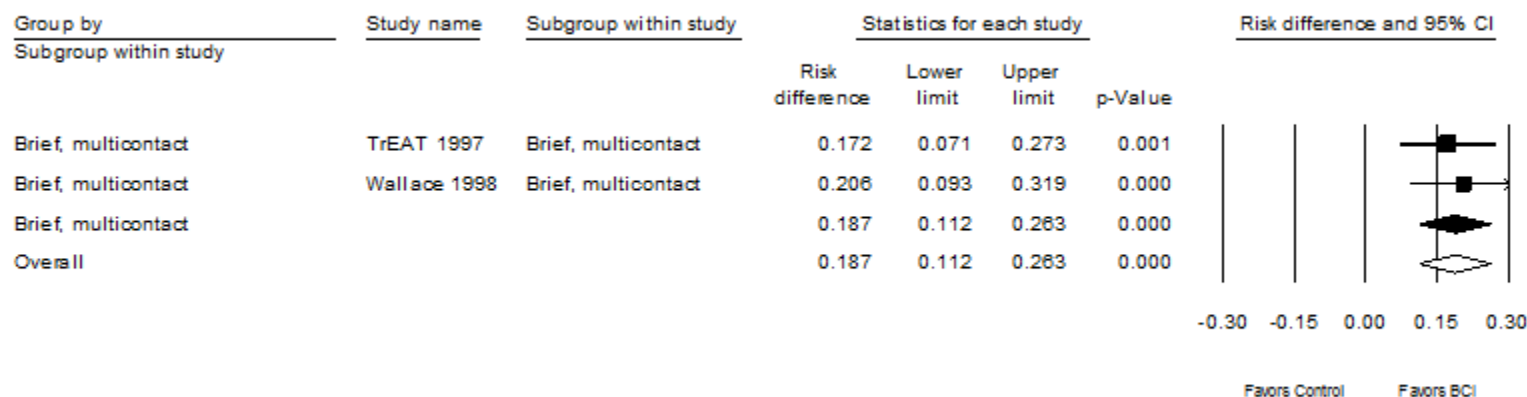
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
_Very Brief	0.000	0	1.000	0.000
Brief	0.700	1	0.403	0.000
Brief, multicontact	1.477	2	0.478	0.000
Overall	6.830	5	0.234	26.793

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	WHO 1996	_Very Brief	0.000	0.000	0.000	1.000
			0.080	0.012	0.148	0.021
Random	WHO 1996	Brief	0.130	0.026	0.234	0.015
			0.080	-0.009	0.169	0.077
Random	Anderson 1992	Brief	0.095	0.041	0.149	0.001
			0.175	0.104	0.247	0.000
Random	TrEAT 1997	Brief, multicontact	0.152	0.089	0.214	0.000
			0.140	0.083	0.198	0.000
Random	Rubio 2010	Brief, multicontact	0.156	0.111	0.201	0.000
			0.121	0.090	0.151	0.000
Random	Wallace 1998	Brief, multicontact				
Random		Overall				

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
	WHO 1996	_Very Brief	0.132	0.093	0.172	0.000
			0.133	0.094	0.172	0.000
	WHO 1996	Brief	0.122	0.079	0.165	0.000
			0.124	0.080	0.168	0.000
	Anderson 1992	Brief	0.115	0.076	0.154	0.000
			0.107	0.073	0.141	0.000
	TrEAT 1997	Brief, multicontact	0.122	0.086	0.159	0.000
	Rubio 2010	Brief, multicontact				
	Wallace 1998	Brief, multicontact				
Random						

Achieved recommended level: adult women, 6 months

Comparison of Behavioral Counseling Interventions vs. Control in Adult Women: Achieved Recommended Drinking at 6 Months



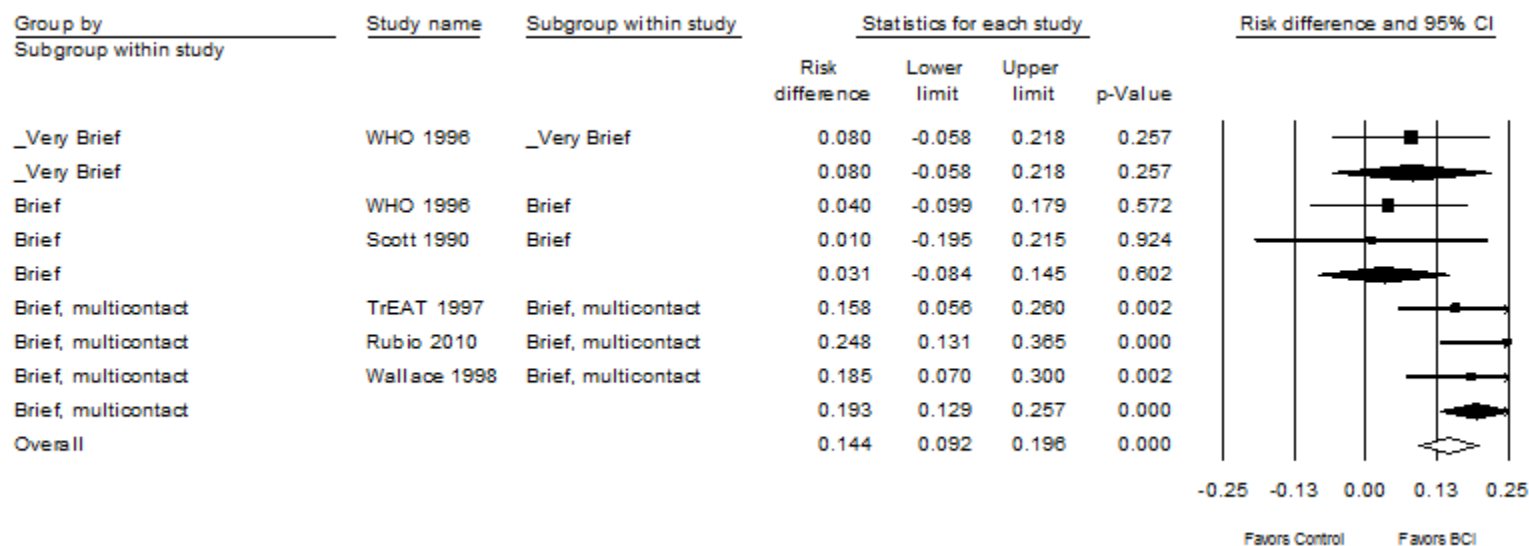
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief, multicontact	0.192	1	0.661	0.000
Overall	0.192	1	0.661	0.000

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	TrEAT 1997	Brief, multicontact	0.206	0.093	0.319	0.000
	Wallace 1998	Brief, multicontact	0.172	0.071	0.273	0.001
			0.187	0.112	0.263	0.000
Random		Overall	0.187	0.112	0.263	0.000

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
	TrEAT 1997	Brief, multicontact	0.206	0.093	0.319	0.000
	Wallace 1998	Brief, multicontact	0.172	0.071	0.273	0.001
Random			0.187	0.112	0.263	0.000

Achieved recommended level: adult women, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Adult Women: Achieved Recommended Drinking at 12 Months



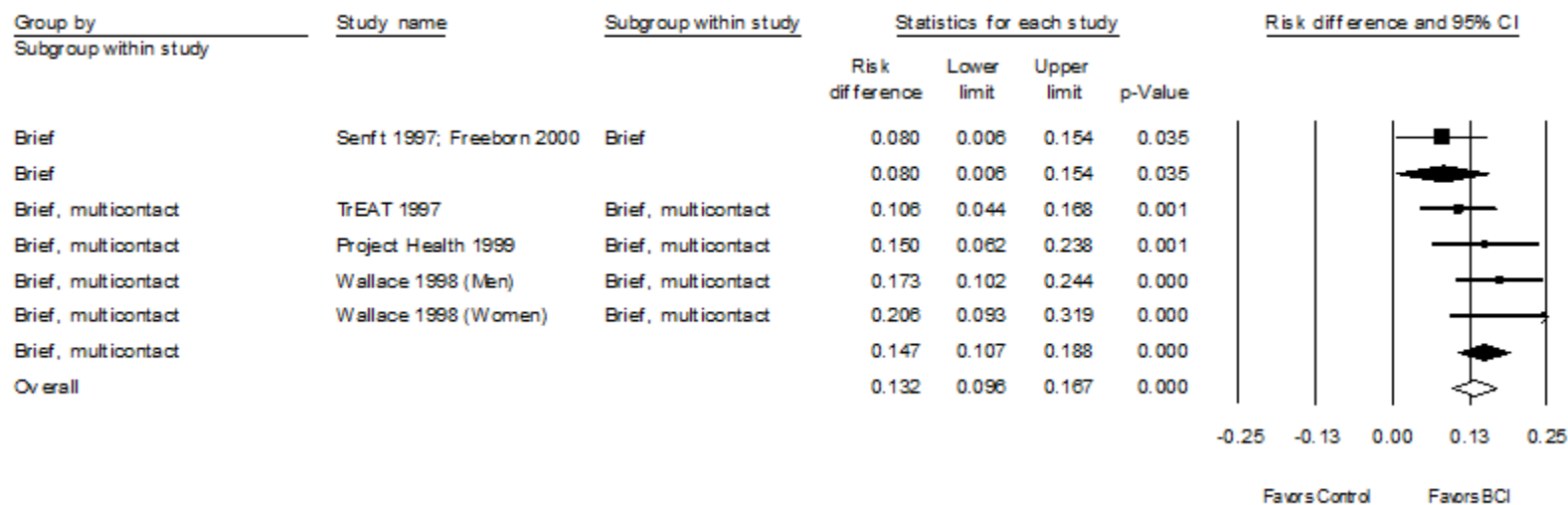
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
_Very Brief	0.000	0	1.000	0.000
Brief	0.057	1	0.812	0.000
Brief, multicontact	1.314	2	0.518	0.000
Overall	8.201	5	0.145	39.035

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	WHO 1996	_Very Brief	0.000	0.000	0.000	1.000
			0.080	-0.058	0.218	0.257
Random	WHO 1996	Brief	0.010	-0.211	0.231	0.929
			0.040	-0.128	0.208	0.640
Random	Scott 1990	Brief	0.031	-0.084	0.145	0.602
			0.216	0.089	0.344	0.001
Random	TrEAT 1997	Brief, multicontact	0.170	0.087	0.253	0.000
			0.200	0.082	0.318	0.001
Random	Rubio 2010	Brief, multicontact	0.193	0.129	0.257	0.000
			0.144	0.092	0.196	0.000
Random	Wallace 1998	Brief, multicontact				
Random		Overall				

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	WHO 1996	_Very Brief	0.146	0.069	0.224	0.000
	WHO 1996	Brief	0.157	0.088	0.225	0.000
	Scott 1990	Brief	0.150	0.081	0.218	0.000
	TrEAT 1997	Brief, multicontact	0.127	0.040	0.215	0.004
	Rubio 2010	Brief, multicontact	0.117	0.055	0.179	0.000
	Wallace 1998	Brief, multicontact	0.123	0.040	0.206	0.003
Random			0.137	0.069	0.205	0.000

Achieved recommended level: adults, 6 months

Comparison of Behavioral Counseling Interventions vs. Control in Adults: Achieved Recommended Drinking at 6 Months



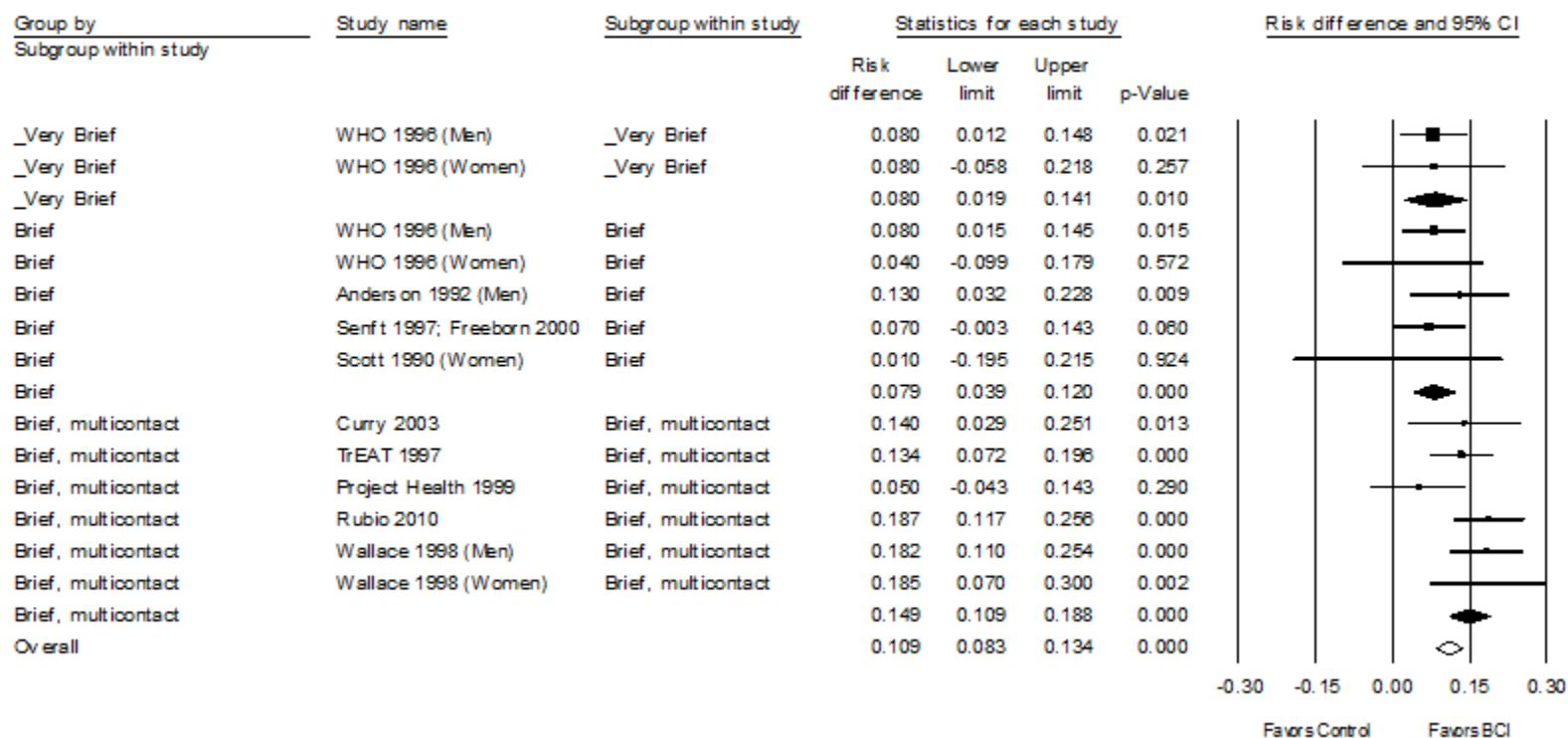
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief	0.000	0	1.000	0.000
Brief, multicontact	3.224	3	0.358	6.947
Overall	5.621	4	0.229	28.843

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	Senft 1997; Freeborn 2000	Brief	0.000	0.000	0.000	1.000
			0.080	0.006	0.154	0.035
	TrEAT 1997	Brief, multicontact	0.173	0.111	0.235	0.000
	Project Health 1999	Brief, multicontact	0.152	0.091	0.212	0.000
	Wallace 1998 (Men)	Brief, multicontact	0.139	0.085	0.194	0.000
Random	Wallace 1998 (Women)	Brief, multicontact	0.139	0.092	0.187	0.000
Random			0.147	0.107	0.188	0.000
Random		Overall	0.132	0.096	0.167	0.000

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
	Senft 1997; Freeborn 2000	Brief	0.147	0.107	0.188	0.000
	TrEAT 1997	Brief, multicontact	0.146	0.093	0.198	0.000
	Project Health 1999	Brief, multicontact	0.133	0.081	0.185	0.000
	Wallace 1998 (Men)	Brief, multicontact	0.123	0.076	0.169	0.000
	Wallace 1998 (Women)	Brief, multicontact	0.125	0.084	0.166	0.000
Random			0.135	0.093	0.176	0.000

Achieved recommended level: adults, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Adults: Achieved Recommended Drinking at 12 Months



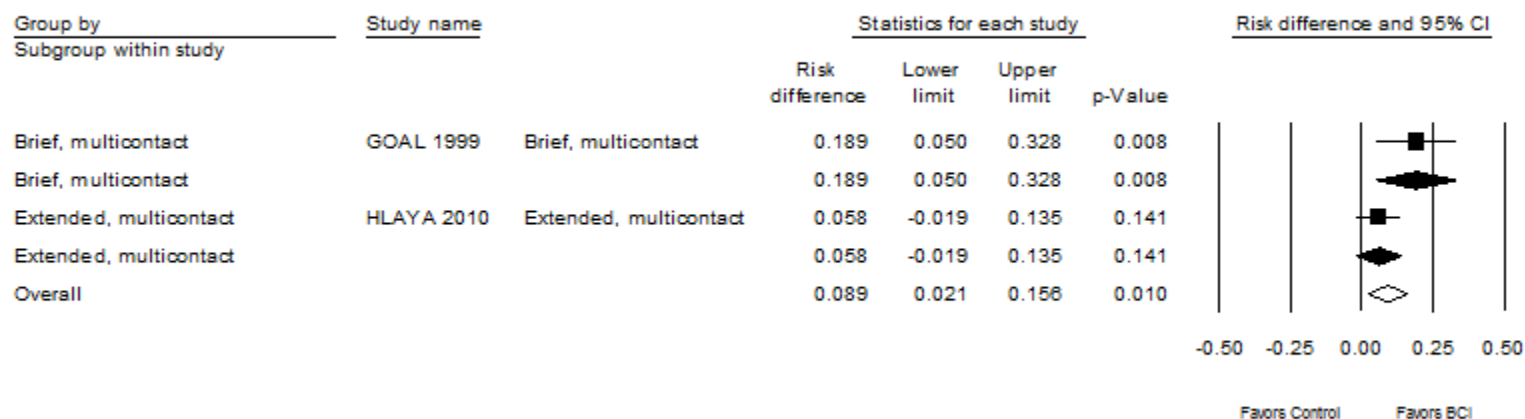
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
_Very Brief	0.000	1	1.000	0.000
Brief	1.845	4	0.764	0.000
Brief, multicontact	6.954	5	0.224	28.098
Overall	17.366	12	0.136	30.900

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	WHO 1996 (Men)	_Very Brief	0.080	-0.071	0.231	0.299
	WHO 1996 (Women)	_Very Brief	0.080	-0.012	0.172	0.089
			0.080	0.019	0.141	0.010
	WHO 1996 (Men)	Brief	0.078	0.015	0.140	0.015
	WHO 1996 (Women)	Brief	0.083	0.030	0.137	0.002
	Anderson 1992 (Men)	Brief	0.065	0.007	0.124	0.029
	Senft 1997; Freeborn 2000	Brief	0.082	0.022	0.142	0.007
Random	Scott 1990 (Women)	Brief	0.083	0.031	0.134	0.002
			0.079	0.039	0.120	0.000
	Curry 2003	Brief, multicontact	0.149	0.104	0.195	0.000
	TrEAT 1997	Brief, multicontact	0.153	0.103	0.202	0.000
	Project Health 1999	Brief, multicontact	0.165	0.121	0.208	0.000
	Rubio 2010	Brief, multicontact	0.139	0.098	0.180	0.000
	Wallace 1998 (Men)	Brief, multicontact	0.141	0.098	0.183	0.000
Random	Wallace 1998 (Women)	Brief, multicontact	0.144	0.101	0.188	0.000
			0.149	0.109	0.188	0.000
Random		Overall	0.109	0.083	0.134	0.000

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
	WHO 1996 (Men)	_Very Brief	0.119	0.087	0.150	0.000
	WHO 1996 (Men)	Brief	0.119	0.087	0.151	0.000
	WHO 1996 (Women)	_Very Brief	0.116	0.085	0.147	0.000
	WHO 1996 (Women)	Brief	0.117	0.087	0.147	0.000
	Anderson 1992 (Men)	Brief	0.113	0.081	0.145	0.000
	Senft 1997; Freeborn 2000	Brief	0.119	0.089	0.150	0.000
	Scott 1990 (Women)	Brief	0.116	0.087	0.146	0.000
	Curry 2003	Brief, multicontact	0.113	0.081	0.144	0.000
	TrEAT 1997	Brief, multicontact	0.111	0.079	0.144	0.000
	Project Health 1999	Brief, multicontact	0.120	0.090	0.149	0.000
	Rubio 2010	Brief, multicontact	0.106	0.079	0.134	0.000
	Wallace 1998 (Men)	Brief, multicontact	0.107	0.079	0.136	0.000
	Wallace 1998 (Women)	Brief, multicontact	0.111	0.081	0.141	0.000
	Random		0.114	0.085	0.144	0.000

Achieved recommended level: older adults, 12 months

Comparison of Behavioral Counseling Interventions vs. Control in Older Adults: Achieved Recommended Drinking at 12 Months



Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Brief, multicontact	0.000	0	1.000	0.000
Extended, multicontact	0.000	0	1.000	0.000
Overall	2.607	1	0.106	61.639

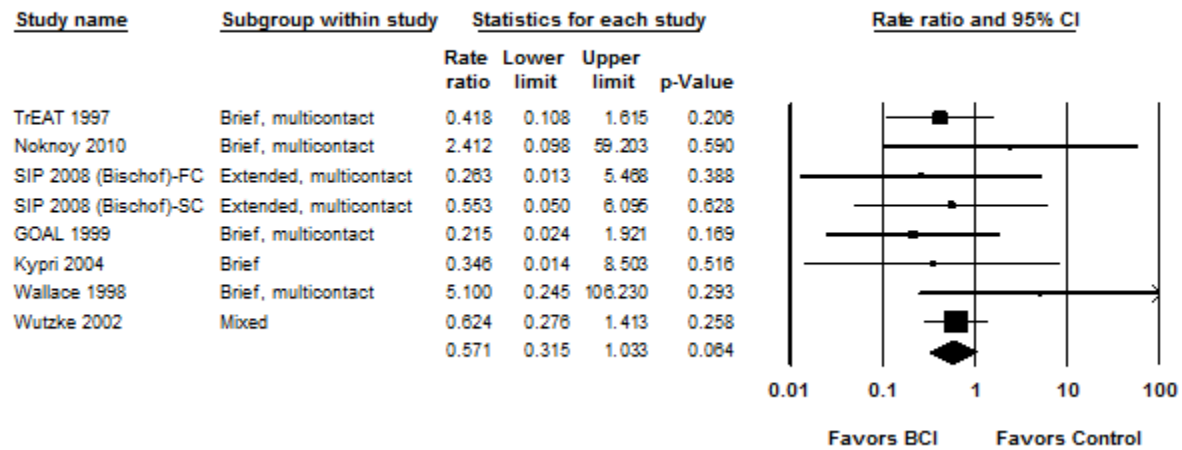
Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	GOAL 1999	Brief, multicontact	0.000	0.000	0.000	1.000
			0.189	0.050	0.328	0.008
Random	HLAYA 2010	Extended, multicontact	0.058	-0.019	0.135	0.141
Random			0.058	-0.019	0.135	0.141
Random		Overall	0.089	0.021	0.156	0.010

Model	Study name	Intensity	Statistics with study removed			
			RD	Lower limit	Upper limit	p-Value
Random	GOAL 1999	Brief, multicontact	0.058	-0.019	0.135	0.141
	HLAYA 2010	Extended, multicontact	0.189	0.050	0.328	0.008
			0.110	-0.016	0.236	0.086

Mortality

All-cause mortality in person-years: all adults

Comparison of Behavioral Counseling Interventions vs. Control in Adults, Older Adults, and Young Adults: All-Cause Mortality in Person-Years

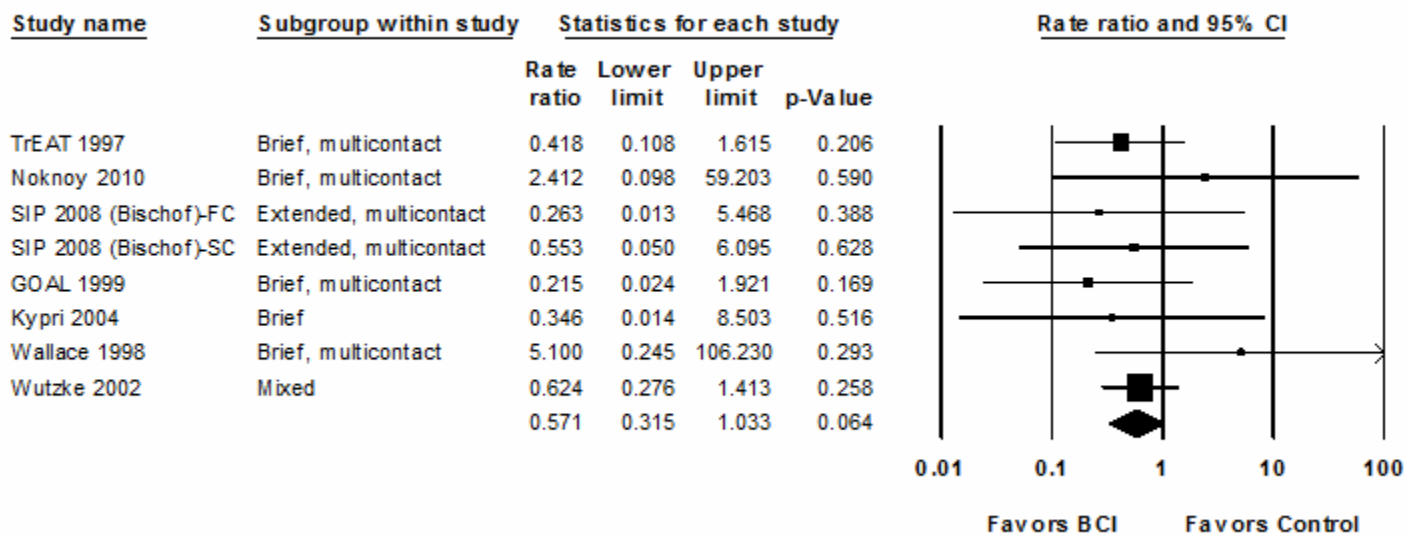


Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Overall	4.040	6	0.671	0.000

Model	Study name	Intensity	Statistics with study removed			
			RR	Lower limit	Upper limit	p-Value
Random	TrEAT 1997	Brief, multicontact	0.597	0.194	1.835	0.368
	Noknoy 2010	Brief, multicontact	0.457	0.187	1.121	0.087
	SIP 2008 (Bischof)-FC	Extended, multicontact	0.548	0.223	1.349	0.190
	SIP 2008 (Bischof)-SC	Extended, multicontact	0.511	0.202	1.289	0.155
	GOAL 1999	Brief, multicontact	0.607	0.237	1.552	0.297
	Kypri 2004	Brief	0.533	0.217	1.306	0.169
	Wallace 1998	Brief, multicontact	0.422	0.171	1.039	0.060
			0.516	0.218	1.224	0.133

All-cause mortality in person-years: all adults; Wutzke added

Comparison of Behavioral Counseling Interventions vs. Control in Adults, Older Adults, and Young Adults: All-Cause Mortality in Person-Years



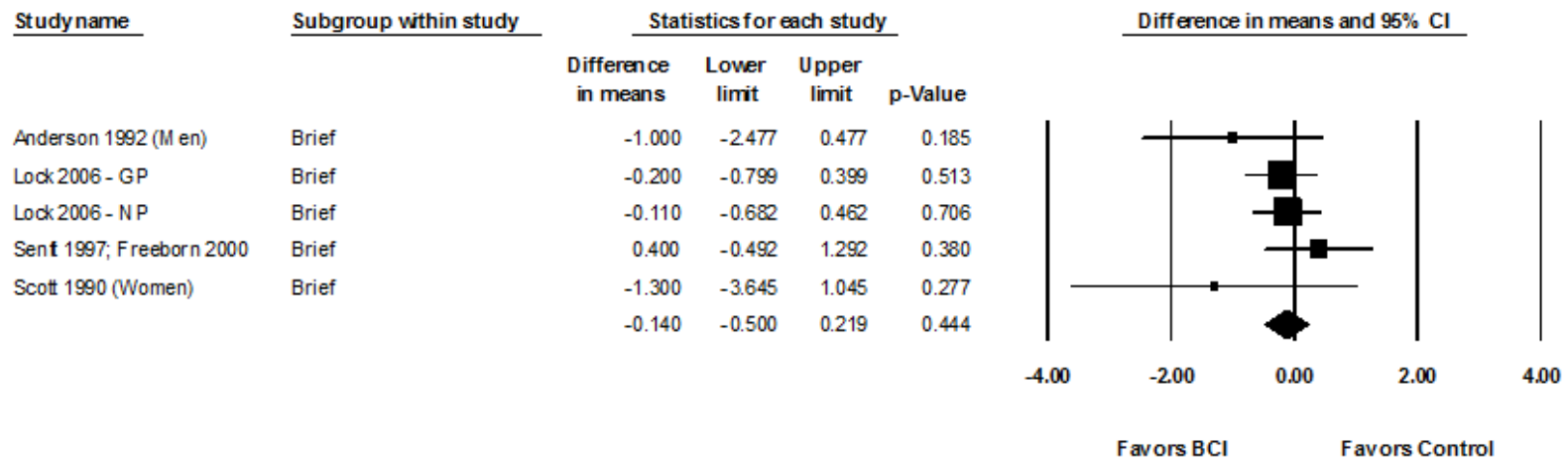
Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Overall	4.139	7	0.764	0.000

Model	Study name	Intensity	Statistics with study removed			
			RR	Lower limit	Upper limit	p-Value
Random	TrEAT 1997	Brief, multicontact	0.615	0.318	1.190	0.149
	Noknoy 2010	Brief, multicontact	0.542	0.296	0.992	0.047
	SIP 2008 (Bischof)-FC	Extended, multicontact	0.589	0.321	1.078	0.086
	SIP 2008 (Bischof)-SC	Extended, multicontact	0.572	0.310	1.055	0.074
	GOAL 1999	Brief, multicontact	0.617	0.333	1.142	0.124
	Kypri 2004	Brief	0.581	0.318	1.063	0.078
	Wallace 1998	Brief, multicontact	0.523	0.286	0.958	0.036
	Wutzke 2002	Mixed	0.516	0.218	1.224	0.133
			0.571	0.315	1.033	0.064

Health care utilization

Change in number of practitioner visits: adults, 12 months

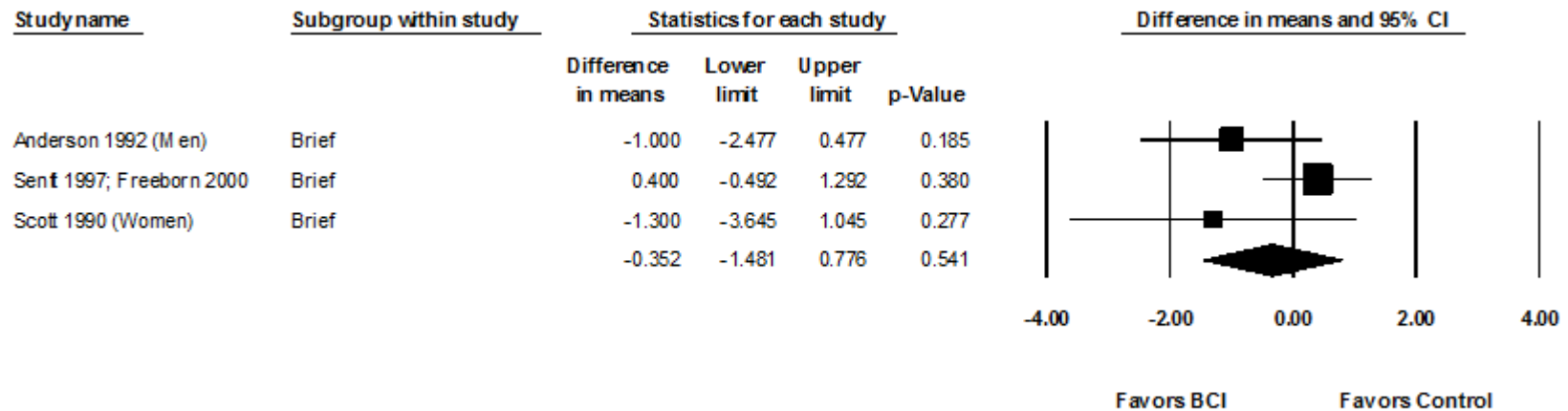
Comparison of Behavioral Counseling Interventions vs. Control in Adults: 12 Month Change in Number of Practitioner Visits



Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Overall	3.698	4	0.448	0.000

Change in number of practitioner visits: adults, 12 months; without Lock, 2006

Comparison of Behavioral Counseling Interventions vs. Control in Adults: 12 Month Change in Number of Practitioner Visits



Heterogeneity Statistics				
Intensity	Q-value	df (Q)	P-value	I-squared
Overall	3.638	2	0.162	45.018

Appendix F: Screening Instruments

Instrument name	Description	No. items / questions	Time to administer	Scoring notes
AUDIT	1. How often do you have a drink containing alcohol?	10		<i>Scoring: ≥ 8 considered a positive screen for hazardous or harmful drinking.</i>
	0. NEVER 1. MONTHLY OR LESS 2. TWO TO FOUR TIMES A MONTH 3. TWO TO THREE TIMES A WEEK 4. FOUR OR MORE TIMES A WEEK	2-5 min		
	2. How many drinks containing alcohol do you have on a typical day when you are drinking?			<u>In general:</u> Scores between 8 and 15 are most appropriate for simple advice focused on the reduction of hazardous drinking; Scores between 16 and 19 suggest brief counseling and continued monitoring;
	0. 1 OR 2 1. 3 or 4 2. 5 OR 6 3. 7 TO 9 4. 10 OR MORE			
	3. How often do you have six or more drinks on one occasion?			Scores of 20 and above clearly warrant further diagnostic evaluation for alcohol dependence.
	0. NEVER 1. LESS THAN MONTHLY 2. MONTHLY 3. WEEKLY 4. DAILY OR ALMOST DAILY			
	4. How often during the last year have you found that you were not able to stop drinking once you had started? <i>(same options as #3)</i>			
	5. How often during the last year have you failed to do what was normally expected from you because of drinking? <i>(same options as #3)</i>			
	6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session? <i>(same options as #3)</i>			
	7. How often during the last year have you had a feeling of guilt or remorse after drinking? <i>(same options as #3)</i>			
	8. How often during the last year have you been unable to remember what happened the night before because you have been drinking? <i>(same options as</i>			

Instrument name	Description	No. items / questions	Time to administer	Scoring notes
	#3) 9. Have you or someone else been injured as a result of your drinking? 0. NO 1. YES, BUT NOT IN THE LAST YEAR 2. YES, DURING THE LAST YEAR 10. Has a relative or friend or a doctor or other health worker been concerned about your drinking or suggested you cut down? <i>(same options as #9)</i>			
AUDIT-C	1. How often do you have a drink containing alcohol?	3		In men, ≥ 4 points is considered positive for alcohol misuse; in women, ≥ 3 points is considered positive.
	0. NEVER 1. MONTHLY OR LESS 2. TWO TO FOUR TIMES A MONTH 3. TWO TO THREE TIMES A WEEK 4. FOUR OR MORE TIMES A WEEK	1-2 min		
	2. How many drinks containing alcohol do you have on a typical day when you are drinking? 0. 1 OR 2 1. 3 or 4 2. 5 OR 6 3. 7 TO 9 4. 10 OR MORE			
	3. How often do you have six or more drinks on one occasion? 0. NEVER 1. LESS THAN MONTHLY 2. MONTHLY 3. WEEKLY 4. DAILY OR ALMOST DAILY			
CAGE	C: have you ever felt you should cut down on your drinking?	4		Score 1 point for each 'yes' response; range 0–4. Positive score ≥ 2 .
	A: have people annoyed you by criticizing your drinking? G: have you ever felt bad or guilty about your drinking? E: eye-opener: have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover?	1 min		
T-ACE	T: tolerance: how many drinks does it take to make you feel high? (>2 indicates	4		Score 2 points for tolerance; 1

Instrument name	Description	No. items / questions	Time to administer	Scoring notes
	tolerance) A: have people annoyed you by criticizing your drinking? C: have you ever felt you should cut down on your drinking? E: eye-opener: have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover?	1 min		point for others; range 0–5; threshold for positive score ≥ 2
TWEAK	T: tolerance: how many drinks can you hold ('hold' version >5 indicates tolerance) or how many drinks can take before you begin to feel the effects ('high' version >2 indicates tolerance) W: have close friends or relatives worried or complained about your drinking in the last year? E: eye-openers: do you sometimes take a drink in the morning when you first get up? A: amnesia: has a friend or family member ever told you about things you said or did while you were drinking that you could not remember? K: kut down: do you sometimes feel the need to cut down on your drinking?	5	<2 min	Score 2 points each for first 2 items and 1 point each for last 3; range 0–7; positive score ≥ 2
MAST*	All items are yes / no questions 1. Do you feel you are a normal drinker? ("normal" - drink as much or less than most other people)? 2. Have you ever awakened the morning after some drinking the night before and found that you could not remember a part of the evening? 3. Does any near relative or close friend ever worry or complain about your drinking? 4. Can you stop drinking without difficulty after one or two drinks? 5. Do you ever feel guilty about your drinking? 6. Have you ever attended a meeting of Alcoholics Anonymous (AA)? 7. Have you ever gotten into physical fights when drinking? 8. Has drinking ever created problems between you and a near relative or close friend? 9. Has any family member or close friend gone to anyone for help about your drinking? 10. Have you ever lost friends because of your drinking? 11. Have you ever gotten into trouble at work because of drinking? 12. Have you ever lost a job because of drinking? 13. Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking? 14. Do you drink before noon fairly often? 15. Have you ever been told you have liver trouble such as cirrhosis?	22	8-15 min	This quiz is scored by allocating 1 point to each 'yes' answer -- except for questions 1 and 4, where 1 point is allocated for each 'no' answer -- and totalling the responses. ≥ 5 is a positive screen for possible alcoholism

Instrument name	Description	No. items / questions	Time to administer	Scoring notes
MAST-G	16. After heavy drinking have you ever had delirium tremens (D.T.'s), severe shaking, visual or auditory (hearing) hallucinations? 17. Have you ever gone to anyone for help about your drinking? 18. Have you ever been hospitalized because of drinking? 19. Has your drinking ever resulted in your being hospitalized in a psychiatric ward? 20. Have you ever gone to any doctor, social worker, clergyman or mental health clinic for help with any emotional problem in which drinking was part of the problem? 21. Have you been arrested more than once for driving under the influence of alcohol? 22. Have you ever been arrested, even for a few hours, because of other behavior while drinking?	24	10 min	This quiz is scored by allocating 1 point to each 'yes' answer ; ≥5 is a positive screen for possible alcoholism
	All items are yes / no questions 1. After drinking have you ever noticed an increase in your heart rate or beating in your chest? 2. When talking to others, do you ever underestimate how much you actually drank? 3. Does alcohol make you sleepy so that you often fall asleep in your chair? 4. After a few drinks, have you sometimes not eaten or been able to skip a meal because you didn't feel hungry? 5. Does having a few drinks help you decrease your shakiness or tremors? 6. Does alcohol sometimes make it hard for you to remember parts of the day or night? 7. Do you have rules for yourself that you won't drink before a certain time of the day? 8. Have you lost interest in hobbies or activities you used to enjoy? 9. When you wake up in the morning, do you ever have trouble remembering part of the night before? 10. Does having a drink help you sleep? 11. Do you hide your alcohol bottles from family members? 12. After a social gathering, have you ever felt embarrassed because you drank too much? 13. Have you ever been concerned that drinking might be harmful to your health?			

		No. items / questions	
Instrument name	Description	Time to administer	Scoring notes
	14. Do you like to end an evening with a night cap? 15. Did you find your drinking increased after someone close to you died? 16. In general, would you prefer to have a few drinks at home rather than go out to social events? 17. Are you drinking more now than in the past? 18. Do you usually take a drink to relax or calm your nerves? 19. Do you drink to take your mind off your problems? 20. Have you ever increased your drinking after experiencing a loss in your life? 21. Do you sometimes drive when you have had too much to drink? 22. Has a doctor or nurse ever said they were worried or concerned about your drinking? 23. Have you ever made rules to manage your drinking? 24. When you feel lonely, does having a drink help?		
SMAST	1. Do you feel you are a normal drinker? 2. Do your spouse, parents or other close relative worry or complain about your drinking? 3. Do you ever feel guilty about your drinking? 4. Do friends or relatives think you are a normal drinker? 5. Are you able to stop drinking when you want to? 6. Have you ever attended a meeting of Alcoholics Anonymous? 7. Has your drinking ever caused problem between you, a spouse, parents or close relative? 8. Have you ever got into trouble at work because of drinking? 9. Have you ever neglected your obligations your family or your work for 2 or more days in a row because you were drinking? 10. Have you ever gone to anyone for help about your drinking? 11. Have you ever been in a hospital because of drinking? 12. Have you ever been arrested for drunk driving or driving after drinking? 13. Have you ever been arrested, however short a time, because of drinking?	13 5 min	This quiz is scored by allocating 1 point to each 'yes' answer; ≥2 is a positive screen for possible alcoholism
SMAST-G	1. When talking to others, do you ever underestimate how much you actually drank? 2. After a few drinks, have you sometimes not eaten or been able to skip a meal because you didn't feel hungry? 3. Does having a few drinks help you decrease your shakiness or tremors? 4. Does alcohol sometimes make it hard for you to remember	10 NR	This quiz is scored by allocating 1 point to each 'yes' answer; ≥2 is a positive screen for possible alcoholism

Instrument name	Description	No. items / questions	Time to administer	Scoring notes
	parts of the day or night? 5. Do you usually take a drink to relax or calm your nerves? 6. Do you drink to take your mind off your problems? 7. Have you ever increased your drinking after experiencing a loss in your life? 8. Has a doctor or nurse ever said they were worried or concerned about your drinking? 9. Have you ever made rules to manage your drinking? 10. When you feel lonely, does having a drink help?			
Single question: 12 months (NIAAA-recommended)	"How many times in the past year have you had X or more drinks in a day?" (X = 5 for men and 4 for women).	1	1 min	≥1 is a positive screen
Single question: 3 months (often called SASQ)	"When was the last time you had more than X drinks in 1 day?," where X was 4 for women and X was 5 for men Alternate wording: "On any single occasion during the past 3 months, have you had more than 5 drinks containing alcohol?"	1	1 min	Positive if answer is within past 3 months. Positive if answer is yes.
ARPS	Includes items in the following: domains: presence of medical and psychiatric conditions (14 items); symptoms of disease (12 items); smoking behavior (1 item); medication use (17 items), physical function and health status (6 items); quantity and frequency of alcohol use (2 items); episodic heavy drinking (2 items); symptoms of alcohol abuse and dependence (4 items); driving after drinking (1 item), and gender (1 item).	60 16 min		Developed for older adults; Complex scoring algorithm; Classifies as harmful, hazardous, or non-hazardous
shARPS	Includes items in the following: domains: presence of medical and psychiatric conditions (8 items); symptoms of disease (7 items); medication use (11 items), physical function and health status (1 item); quantity and frequency of alcohol use (2 items);	32	2-5 min	Developed for older adults; Complex scoring algorithm; Classifies as harmful / hazardous, or non-hazardous

Instrument name	Description	Time to administer	Scoring notes
NET	episodic heavy drinking (1 item); symptoms of alcohol abuse and dependence (1 items); and driving after drinking (1 item) N: normal drinker: do you feel you are a normal drinker? E: eye-opener question from CAGE T: tolerance: how many drinks does it take to make you feel high? (>2 indicates tolerance)	No. items / questions 3 1 min	Score 1 point each for not normal or eye openers and 2 points for tolerance; range 0–4

* The original MAST included 25 questions and used a more complex scoring method; the version presented here represents the revised version used in practice today.

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Appendix G. Strength of Evidence

STRENGTH of EVIDENCE for KQ1

Table X-1. Screening (followed by a behavioral counseling intervention) compared with another screening approach, no screening, or usual care

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
Morbidity						
0; 0	NA	NA	NA	NA	NA	Insufficient
Mortality						
0; 0	NA	NA	NA	NA	NA	Insufficient
Other long-term outcomes						
0; 0	NA	NA	NA	NA	NA	Insufficient

STRENGTH of EVIDENCE for KQ3

Table X-1. Harms of screening for alcohol misuse and screening-related assessment

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
Anxiety						
0; 0	NA	NA	NA	NA	NA	Insufficient
Stigma, labeling, or discrimination						
0; 0	NA	NA	NA	NA	NA	Insufficient
Interference with the doctor-patient relationship						
0; 0	NA	NA	NA	NA	NA	Insufficient
Opportunity costs (e.g., time taken away from other clinical activities)						
0; 0	NA	NA	NA	NA	NA	Insufficient
Increased alcohol, tobacco, or illegal substance use						
0; 0	NA	NA	NA	NA	NA	Insufficient

Abbreviations: CI, confidence interval; NA, not applicable

STRENGTH of EVIDENCE for KQ4a

Table X-1. Behavioral counseling interventions for adults compared with usual care

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Alcohol use, mean change in drinks per week at 12 months</i>						
14; 4,332	Low; RCTs/Fair and Good	Consistent (I ² 14%)	Indirect	Precise	WMD -3.6 (95% CI: -4.8, -2.4)	Moderate*
<i>Binge drinking, % without by 12 months</i>						
8; 2,737	Low; RCTs/ Fair and Good	Consistent (I ² 17%)	Indirect	Precise	Risk difference 0.12 (95% CI: 0.07, 0.16)	Moderate*
<i>Recommended drinking levels achieved, % at 12 months</i>						
13; 5,973	Low; RCTs/ Fair and Good	Consistent (I ² 31%)	Indirect	Precise	Risk difference 0.11 (95% CI: 0.08, 0.13)	Moderate*
<i>Follow-up with referrals</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Abstinence</i>						
3; 2,387	Low; RCTs/Fair	Inconsistent	Indirect	Imprecise	Heterogeneous results reported with little data reported	Insufficient*

Abbreviations: CI, confidence interval; NA, not applicable; RCT, randomized controlled trial; WMD, weighted mean difference

*These were graded moderate, rather than high, because they are intermediate outcomes (thus the Indirect ratings in the Directness column)

**unable to pool data or make a conclusion with the limited data reported among the secondary outcomes of the three studies reporting abstinence

Table X-1. Behavioral counseling interventions for older adults compared with usual care

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Alcohol use, mean change in drinks per week at 12 months</i>						
2; 789	Low; RCTs/Fair	Consistent	Indirect	Imprecise	WMD -1.74 (95% CI - 2.8, -0.6)	Moderate*
<i>Binge drinking at 12 months</i>						
2; 789	Low; RCTs/Fair	Inconsistent	Indirect	Imprecise	Mixed results**	Insufficient*
<i>Recommended drinking levels achieved at 12 months</i>						
2; 789	Low; RCTs/Fair	Inconsistent	Indirect	Imprecise	Risk difference 0.09 (95% CI: 0.02, 0.16)	Low***
<i>Follow-up with referrals</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Abstinence</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient

Abbreviations: CI, confidence interval; NA, not applicable; RCT, randomized controlled trial; WMD, weighted mean difference

*We have moderate confidence that behavioral interventions are beneficial in older adults because both trials found a benefit, but the magnitude of benefit is less certain, as one trial (Project GOAL^{1,2}) found a reduction of over 5 drinks per week for those in the intervention group compared with controls and the other (HLAYA^{3,4}) found a reduction of between 1 and 2 drinks per week compared with controls.

**Project GOAL was a positive study, finding greater reduction in binge drinking in the previous 30 days (18% more subjects reported no binge drinking in the intervention group, $P < 0.025$). The HLAYA study did not find a statistically significant difference for one or more heavy drinking days in the past 7 days at 12 months (OR 0.89, 95% CI: 0.4, 1.97).

***Both point estimates for the individual studies favored behavioral interventions, although the difference in GOAL reached statistical significance and the difference in HLAYA did not quite. Pooling the data for the two studies found a 9% absolute difference favoring behavioral interventions.

Table X-1. Behavioral counseling interventions for young adults and college students compared with usual care

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Alcohol use, mean change in drinks per week at 6 months</i>						
5; 2,255	Low; RCTs/Fair and Good	Consistent	Indirect	Precise	Greater reduction with behavioral counseling interventions in 5 of 5 studies (6/6 comparisons); WMD -1.7 drinks per week (95% CI: -2.6, -0.7) for 3 studies reporting drinks per week; RRs from 0.74 to 0.79 for the 2 studies reporting rate ratios (all with statistically significant 95% CIs).	Moderate
<i>Alcohol use, mean change in drinks per week at 12 months</i>						
4; 2,151	Low; RCTs/Fair and Good	Inconsistent*	Indirect	Imprecise*	Greater reduction with behavioral counseling interventions with effect sizes ranging from 1.2 ⁵ to 4.1 ⁶ drinks per week.	Moderate*
<i>Binge drinking at 6 months</i>						
5; 2,255	Low; RCTs/Fair and Good	Consistent	Indirect	Precise	Greater reduction with in-person interventions of 0.9 heavy drinking days per month (WMD -0.9, 95% CI: -1.5, -0.3) and with web-based interventions (RR 0.76, 95% CI: 0.61, 0.93)	Moderate
<i>Binge drinking at 12 months</i>						
4; 2,151	Low; RCTs/Fair and Good	Inconsistent	Indirect	Imprecise	No difference between groups for heavy drinking days per month (WMD -0.2, 95% CI: -1.2, 0.8)	Low
<i>Recommended drinking levels achieved</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Follow-up with referrals</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Abstinence</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient

Abbreviations: CI, confidence interval; NA, not applicable; RCT, randomized controlled trial; WMD, weighted mean difference

*Although there is some inconsistency because one of four studies (one of five comparisons) did not find a difference between groups, the best evidence suggests a difference, and there are several reasons why the study by Schaus and colleagues⁷ may not have found a difference: (1) the control group received an alcohol problems prevention booklet, which may bias results toward the null, and (2) the enrolled subjects had a much lower baseline alcohol consumption (around 8 to 9 drinks per week—half of what was reported in other studies), leaving less room for reduction in consumption. Thus, we graded this moderate, rather than low.

Table X-1. Behavioral counseling interventions for pregnant women compared with usual care

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95%CI)	High, Moderate, Low, Insufficient
<i>Alcohol use, mean change in drinks per week</i>						
1; 250	Medium; RCT/Fair	NA, single study	Indirect	Imprecise	Difference between groups was not statistically significant (-0.3 vs. -0.4, $P = NS$, excluding patients who maintained abstinence through the end).	Low
<i>Binge drinking</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Recommended drinking levels achieved</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Follow-up with referrals</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Abstinence</i>						
1; 250	Medium; RCT/Fair	NA, single study	Indirect	Imprecise	For the overall sample, data were not reported*	Insufficient*

Abbreviations: CI, confidence interval; NA, not applicable; NS, not significant; RCT, randomized controlled trial

* For the subgroup of subjects who were abstinent prior to assessment, those who received the intervention maintained higher rates of abstinence than those in the control group (86% vs. 72%, $P = 0.04$, low strength of evidence).

STRENGTH of EVIDENCE for KQ4b

Table X-1. Behavioral counseling interventions for adults compared with each other: Very brief interventions compared with brief interventions

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
Alcohol use, % decreasing average daily amount at 9 months						
1; 1072*	Medium**; RCT/Fair	NA, single study	Indirect	Imprecise	<i>Men</i> VB: 40.8 vs. B: 40.3*** <i>Women</i> VB: 43.2 vs. B: 45.1***	Insufficient
Binge drinking						
0; 0	NA	NA	NA	NA	NA	Insufficient
Recommended drinking levels: Improvement in % of subjects above recommended weekly limit at 9 months						
1; 1072*	Medium**; RCT/Fair	NA, single study	Indirect	Imprecise	<i>Men</i> VB: 21 vs. B: 17*** <i>Women</i> VB: 27 vs. B: 25***	Insufficient
Follow-up with referrals						
0; 0	NA	NA	NA	NA	NA	Insufficient
Abstinence, % abstinent at 9 months						
1; 1072*	Medium**; RCT/Fair	NA, single study	Indirect	Imprecise	<i>Men</i> VB: 5 vs. B: 8*** <i>Women</i> VB: 7 vs. B: 12***	Insufficient

Abbreviations: B, brief intervention up to 15 minutes; CI, confidence interval; NA, not applicable; NS, not statistically significant; RCT, randomized controlled trial; VB, very brief intervention up to 5 minutes

*Total number of subjects randomized in the study was 1,559;⁸ 1,072 were randomized to the 2 study groups relevant for this comparison

** One study making the comparison: WHO Brief Intervention Study, 1996.⁸ Interpretation of the head-to-head information to make a conclusion about how very brief and brief interventions compare in primary care settings is limited by heterogeneity of settings (with many settings outside of primary care, including those in emergency departments), heterogeneity of interventions (with various approaches or personnel used to deliver the intervention), and variations in the interventions across settings and countries.

****P* values or confidence intervals not reported.

Table X-1. Behavioral counseling interventions for adults compared with each other: Very brief interventions compared with extended multi-contact interventions

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; (Design/Quality)	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Alcohol use, reduction in weekly consumption (drinks/week) at 12 months</i>						
1; 192*	Medium; RCT/Fair	NA, single study	Indirect	Imprecise	VB: -2.1 vs. EM: -7.0**	Insufficient**
<i>Binge drinking</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Recommended drinking levels: % of subjects above recommended levels (%change from baseline) at 12 months</i>						
1; 192*	Medium; RCT/Fair	NA, single study	Indirect	Imprecise	VB: 77.1 (-2.1) vs. EM: 76.0 (-7.3), <i>P</i> = NS	Low
<i>Follow-up with referrals</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Abstinence, % abstinent at 9 months</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient

Abbreviations: CI, confidence interval; EM, extended multi-contact intervention (multiple contacts, some or all longer than 15 minutes); NA, not applicable; NS, not statistically significant; RCT, randomized controlled trial; VB, very brief intervention up to 5 minutes

*Total number of subjects randomized in the study was 378;⁹ 192 were randomized to the 2 study groups relevant for this comparison.

***P* values or confidence intervals not reported to determine statistical significance.

Table X-1. Behavioral counseling interventions for adults compared with each other: Brief interventions compared with extended multi-contact interventions

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Alcohol use, Change in # of drinks in last 30 days at 12 months</i>						
1; 201*	Medium; RCT/Fair	NA, single study	Indirect	Imprecise	B: -33.20 (-48.19, -18.21) vs. EM: -21.99 (-32.32, -11.65)	Low
<i>Binge drinking</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Recommended drinking levels</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Follow-up with referrals</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Abstinence, Change in # of days abstinent at 12 months</i>						
1; 201*	Medium; RCT/Fair	NA, single study	Indirect	Imprecise	B: +2.54 (0.53, 4.56) vs. EM: +3.58 (1.58, 5.57)	Low

Abbreviations: B, brief intervention up to 15 minutes; CI, confidence interval; EM, extended multi-contact intervention (multiple contacts, some or all longer than 15 minutes); NA, not applicable; NS, not statistically significant; RCT, randomized controlled trial

*Total number of subjects randomized in the study was 301;¹⁰ 201 were randomized to the 2 study groups relevant for this comparison.

Table X-1. Behavioral counseling interventions for adults compared with each other: Extended multi-contact interventions compared with extended multi-contact interventions

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Alcohol use, Change from baseline in alcohol grams per day at 12 months</i>						
1; 269*	Medium; RCT/Fair	NA, single study	Indirect	Imprecise	EM (FC): -13.0 vs. EM (SC): -12.2, $P = 0.217$	Low
<i>Binge drinking</i>						
1; 269*	Medium; RCT/Fair	NA, single study	Indirect	Imprecise	Overall data NR, only reported for subgroups**	Insufficient
<i>Recommended drinking levels</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Follow-up with referrals</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Abstinence, Change in # of days abstinent at 12 months</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient

Abbreviations: CI, confidence interval; EM, extended multi-contact intervention (multiple contacts, some or all longer than 15 minutes); NA, not applicable; NR, not reported; RCT, randomized controlled trial

*Total number of subjects randomized in the study was 408;¹¹ 269 were randomized to the 2 study groups relevant for this comparison.

**Among those with alcohol dependence: EM (FC): 61.2% vs. EM (SC): 51.4%, $P = 0.387$; among abusers/at-risk drinkers: EM (FC): 77.6% vs. EM (SC): 78.0%, $P = 1.00$; among those with heavy episodic drinking only: EM (FC): 80.6% vs. EM (SC): 72.5%, $P = 0.577$

Table X-1. Behavioral counseling interventions for young adults or college students compared with each other: Brief interventions compared with brief multi-contact interventions

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Alcohol use, total drinks in the past 2 weeks at 6 months</i>						
1; 283*	Low; RCT/Good	NA, single study	Indirect	Imprecise	For each group compared with the control group: B: RR 0.77 (95% CI 0.63, 0.95) BM: RR 0.79 (95% CI 0.64, 0.97)	Low
<i>Alcohol use, total drinks in the past 2 weeks at 12 months</i>						
1; 283*	Low; RCT/Good	NA, single study	Indirect	Imprecise	For each group compared with the control group: B: RR 0.77 (95% CI 0.63, 0.95), BM: RR 0.87 (95% CI 0.71, 1.06)	Low
<i>Binge drinking, heavy drinking episodes in the past 2 weeks at 6 months</i>						
1; 283*	Low; RCT/Good	NA, single study	Indirect	Imprecise	For each group compared with the control group: B: RR 0.78 (95% CI 0.55, 1.12) BM: RR 0.65, 95% CI 0.45, 0.93)	Low
<i>Binge drinking, heavy drinking episodes in the past 2 weeks at 12 months</i>						
1; 283*	Low; RCT/Good	NA, single study	Indirect	Imprecise	Neither group reached statistical significance compared with control, but results trended toward favoring the intervention groups (RRs from 0.71 to 0.75 with upper limits of CIs at 1.01 and 1.07).	Low
<i>Recommended drinking levels</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Follow-up with referrals</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Abstinence, Change in # of days abstinent at 12 months</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient

Abbreviations: B, brief intervention up to 15 minutes; BM, brief multi-contact intervention; CI, confidence interval; NA, not applicable; RCT, randomized controlled trial; RR, rate ratio

*Total number of subjects randomized in the study was 576;^{12,13} 283 were randomized to the 2 study groups relevant for this comparison.

STRENGTH of EVIDENCE for KQ5

Table X-1. Adverse effects associated with behavioral counseling interventions compared with usual care

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; # of Subjects	Risk of Bias (Design/Quality)	Consistency	Directness	Precision	Summary Effect Size (95% Confidence Interval)	High, Moderate, Low, Insufficient
Increased smoking						
5*; 2,067	Low RCTs/Fair and Good	Consistent	Direct	Imprecise	No difference between groups (unable to calculate effect size)	Low
Opportunity costs/time						
23; 10,519	Low RCTs/Fair and Good	Consistent, within a given intensity category	Indirect**	Imprecise	Range from about 5 minutes to approximately 2 hours, depending on planned intervention intensity	Moderate
Anxiety						
2; 226	Low to medium RCTs/Fair	Consistent	Direct	Imprecise	No difference between groups (unable to calculate effect size)	Low
Stigma, labeling, discrimination, or interference with doctor-patient relationship						
0; 0	NA	NA	NA	NA	NA	Insufficient
Illegal substance use						
0; 0	NA	NA	NA	NA	NA	Insufficient

Abbreviations: NA, not applicable; RCT, randomized controlled trial

*4 of the studies were conducted in adult populations; 1 study enrolled older adults, and a subgroup analysis of TrEAT also provided information on older adults. We found no evidence in young adults/college students or pregnant women.

**We considered this indirect because the time for the intervention was not actually measured in most studies. Authors generally reported the estimated/planned time for interventions, rather than measured/actual time.

STRENGTH of EVIDENCE for KQ6

Table X-1. Behavioral counseling interventions for adults compared with usual care or with each other

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Mortality, all-cause mortality (person-years)</i>						
4; 2,006	Low to medium; RCTs/Fair and Good	Inconsistent	Direct	Imprecise	Rate ratio 0.64 (95% CI: 0.24, 1.7)*	Low
<i>Alcohol-related accidents</i>						
4; 1,117	Medium; RCTs/Fair and Good	Consistent	Direct	Imprecise	Unable to determine a magnitude of effect**	Insufficient
<i>Alcohol-related liver problems</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Outpatient/primary care visits***</i>						
5; 876	Low; RCTs/Fair and Good	Inconsistent	Direct	Imprecise	No significant difference (WMD - 0.14 visits, 95% CI: - 0.5, 0.2)	Low
<i>Hospitalizations (hospital days)</i>						
3; 1,417	Low; RCTs/Fair and Good	Inconsistent	Direct	Imprecise	Best evidence found a significant difference in hospital days in the last 6 months for the intervention group than the control group at 6, 12, and 48 months (35 vs. 180, 91 vs. 146, and 420 vs. 664, $P < 0.001$, $P < 0.001$, and $P < 0.05$, respectively).†	Low
<i>Emergency visits</i>						
2; 901	Low; RCTs/Fair and Good	Consistent	Direct	Imprecise	Trend favoring control, but not statistically significant. At 6, 12, and 48 months for intervention vs. control: 47 vs. 70, 60 vs. 62, and 302 vs. 376, $P > 0.10$, $P > 0.10$, and $P < 0.10$, respectively†	Low
<i>Costs</i>						
2; 901	Low RCTs/Fair and Good	Inconsistent	Direct	Imprecise	12 months: average per subject benefit over \$1,100 and benefit-cost ratio 5.6:1 (95% CI: 0.4, 11.0).	Low

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
					48 months: cost per patient of \$205, benefit per patient of \$7,985, for a resulting benefit-cost ratio of 39 (95% CI: 5.4, 72.5)†	
Legal events: assault/battery/child abuse, resist/obstruct officer/disorderly conduct, criminal damage/property damage, theft/robbery, other arrests, controlled substance/liquor violations						
1; 774	Low RCT/Good	NA, single study	Direct	Imprecise	No statistically significant differences reported except for controlled substance/liquor violations (2 vs. 11, $P < 0.05$)*	Low
Sick days and employment stability						
0; 0	NA	NA	NA	NA	NA	Insufficient
Quality of Life						
3; 353	Medium RCTs/Fair	Consistent	Direct	Imprecise	No difference‡	Low

*Analyses with the addition of the included studies in older adults (GOAL) and in younger adults (Kypri 2004) trended further toward favoring behavioral interventions, but remained non-statistically significant (rate ratio 0.52, 95% CI 0.22, 1.2; 6 studies, 2,255 subjects)

**Four studies reported data on accidents in adults. Studies were not designed or powered to detect differences in these outcomes. The best available evidence comes from Project TrEAT (N=774),¹⁴ which reported outcomes after 48 months of follow-up. The study found lower numbers of motor vehicle crashes with fatalities (0 vs. 2), motor vehicle crashes with non-fatal injuries (20 vs. 31), and motor vehicle crashes with property damage only (67 vs. 72), that were not statistically significantly different between the intervention and control groups. Two studies (Anderson 1992 and Scott 1990) reported accident scores (from an alcohol-related problems scale), both with endpoint scores numerically favoring the intervention group.^{15,16} Neither found a significant change from baseline data for the intervention group or for the control group. One study conducted in Thailand reported alcohol-related accidents (1 in the intervention group and 4 in the control group) and alcohol-related traffic accidents (3 in the intervention group and 5 in the control group).¹⁷

***List the actual outcome measures that were reported for primary care utilization

†Summary effect sizes and data are from Project TrEAT, as it provided the best evidence (due to design, sample size of 774, risk of bias, and duration of follow up). For hospitalizations, two smaller studies of shorter duration reported no statistically significant difference between groups for hospitalization outcomes, but Senft and colleagues (N=516) reported a slightly lower percentage of subjects hospitalized in the intervention group than the control group at 24 months that was not significant (21.2% vs. 22.0%, $P = 0.81$) and a trend toward fewer mean hospital days for those hospitalized (4.7 vs. 6.6, $P = 0.37$); Lock and colleagues (N=127) reported no significant difference between groups for hospital inpatient stays. 48-month cost data are from the societal perspective.^{14,18}

‡Two 12-month studies reported no difference in change in mean life quality scores between the intervention and control groups (0 vs. 0 and -0.3 vs. -0.3).^{15,16} A nurse-led intervention (N=127) reported no significant differences between the intervention and control groups at 6 or 12 months for change in SF-12 physical or mental health scores.¹⁹

Table X-1. Behavioral counseling interventions for older adults compared with usual care or with each other

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Mortality, all-cause mortality (person-years)</i>						
1; 158	Medium; RCT/Fair	NA, single study	Direct	Imprecise	Intervention vs. control: 1 death vs. 4, <i>P</i> = NR	Insufficient
<i>Morbidity</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Utilization</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Costs</i>						
1; 158	Medium; RCT/Fair	NA, single study	Direct	Imprecise	No statistically significant difference in economic outcomes through 24 months*	Low
<i>Legal events, sick days, and employment stability</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Quality of life</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient

*The total costs of health care and social consequences were estimated to be \$5,241 (95% CI: \$2,995, \$7,487) per patient in the treatment group and \$6,289 (95% CI: \$3,549, \$9,029) per patient in the control group.²

Table X-1. Behavioral counseling interventions for young adults and college students compared with usual care or with each other

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Mortality</i>						
1; 104	Medium; RCT/Fair	NA, single study	Direct	Imprecise	One of the trials (Kypri 2004) reported one death in the control group and zero in the intervention group.	Insufficient
<i>Motor vehicle events</i>						
1; 226	Medium; RCT/Fair	NA, single study	Direct	Imprecise	Fewer events in intervention group than control group*	Low
<i>Alcohol-related liver problems</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Hospitalizations (hospital days)</i>						
1; 226	Medium; RCT/Fair	NA, single study	Direct	Imprecise	Lower number of days of hospitalization for the intervention group, but did not reach statistical significance: 131 vs. 150, $P = NS^*$	Low
<i>Emergency visits</i>						
1; 226	Medium; RCT/Fair	NA, single study	Direct	Imprecise	Fewer emergency department visits for the intervention group than for the control group: 103 vs. 177, $P < 0.01$	Low
<i>Academic outcomes</i>						
2; 680	Low; RCTs/Fair and Good	Consistent	Direct	Imprecise	Fewer consequences related to academic role expectations (rate ratio between 0.70 and 0.80)†	Moderate
<i>Legal events</i>						
1; 226	Medium; RCT/Fair	NA, single study	Direct	Imprecise	No statistically significant differences reported except for controlled substance/liquor violations: 0 vs. 8, $P < 0.01^{**}$	Low
<i>Costs</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Quality of life</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient

*Evidence is from a subgroup analysis of young adults (18 to 30) from Project TrEAT. The study reported significantly fewer motor vehicle crashes with non-fatal injuries for those in the intervention group than for controls (9 vs. 20, respectively; $P < 0.05$) and fewer total motor vehicle events (114 vs. 149; $P < 0.05$) after 48 months of follow-up.⁶

**No statistically significant difference for total legal events (16 vs. 26), assault/battery/child abuse (6 vs. 6), resist/obstruct officer/disorderly conduct (6 vs. 3), criminal damage/property damage (1 vs. 3), theft/robbery (1 vs. 3), and other arrests (2 vs. 3). However, the study did report a difference for controlled substance/liquor violations, with 0 in the intervention group compared with 8 in the control group ($P < 0.01$).⁶

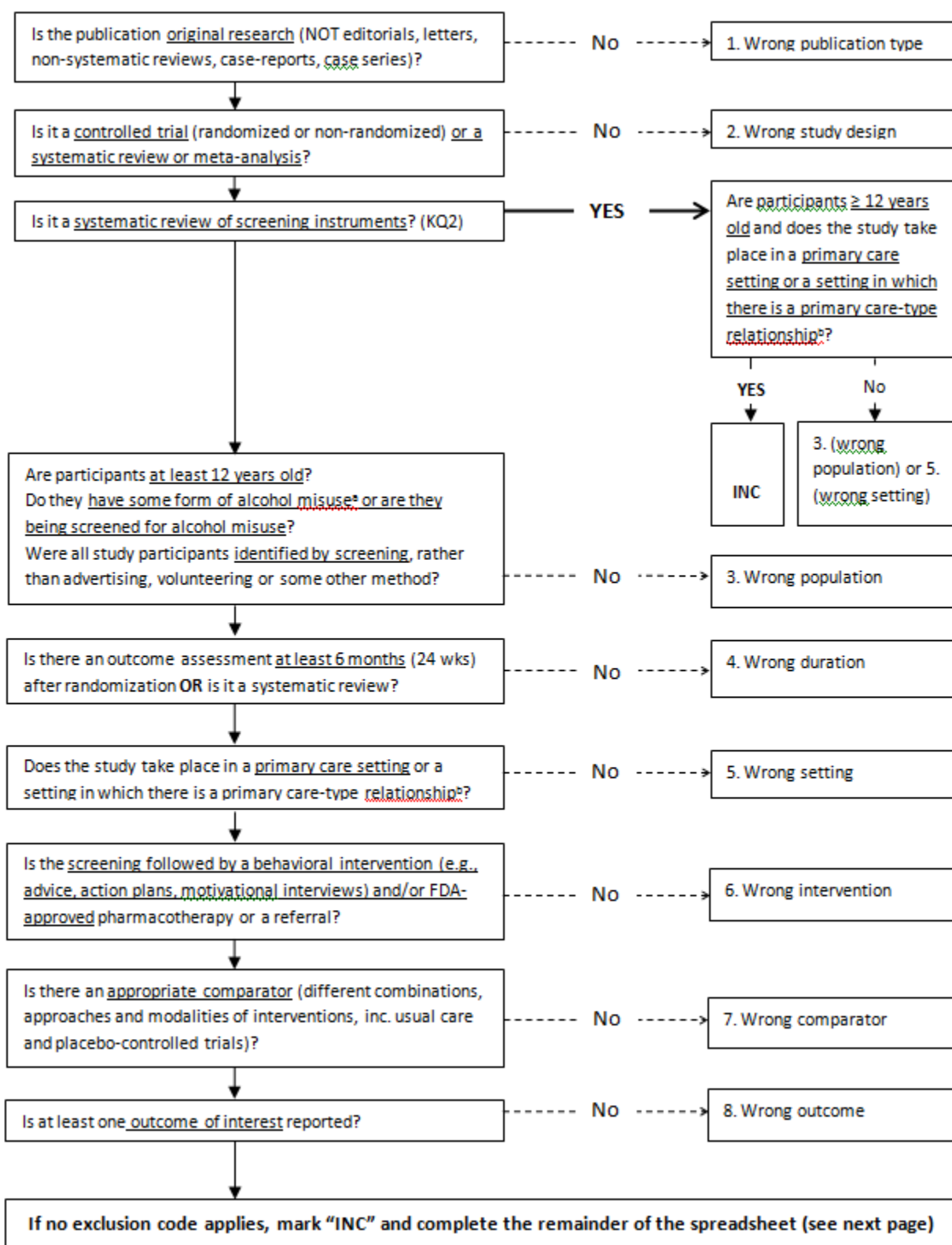
†Both studies used the Academic Role Expectations and Alcohol Scale (AREAS).^{12,20} The larger (N=576) trial reported fewer academic consequences for the intervention groups than control groups at 12 months (rate ratio: single-contact intervention 0.80,

95% CI: 0.66, 0.97; multi-contact intervention 0.75, 95% CI: 0.62, 0.90).¹² In the smaller trial (N=104), results did not quite reach statistical significance at 6 months, but point estimates for rate ratios were similar (0.72, 95% CI: 0.51, 1.02).²⁰

Table X-1. Behavioral counseling interventions for pregnant women compared with usual care or with each other

	Domains pertaining to strength of evidence				Magnitude of effect	Strength of evidence
Number of Studies; Number of Subjects	Risk of Bias; Design/ Quality	Consistency	Directness	Precision	Summary Effect Size (95% CI)	High, Moderate, Low, Insufficient
<i>Mortality</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Morbidity</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient
<i>Other long-term outcomes</i>						
0; 0	NA	NA	NA	NA	NA	Insufficient

Appendix H. Review and Abstraction Forms



Ref ID Author Year Study name	Code	Design	Screening	Brief Intervention	Referral	KQ1	KQ2	KQ3	KQ4a	KQ4b	KQ5	KQ6	KQ7
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Data Abstraction Form

See Appendix C. Evidence Tables

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